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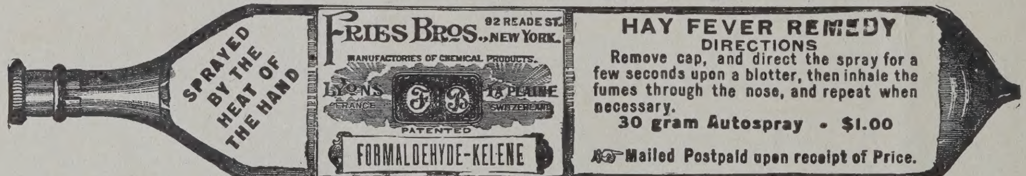
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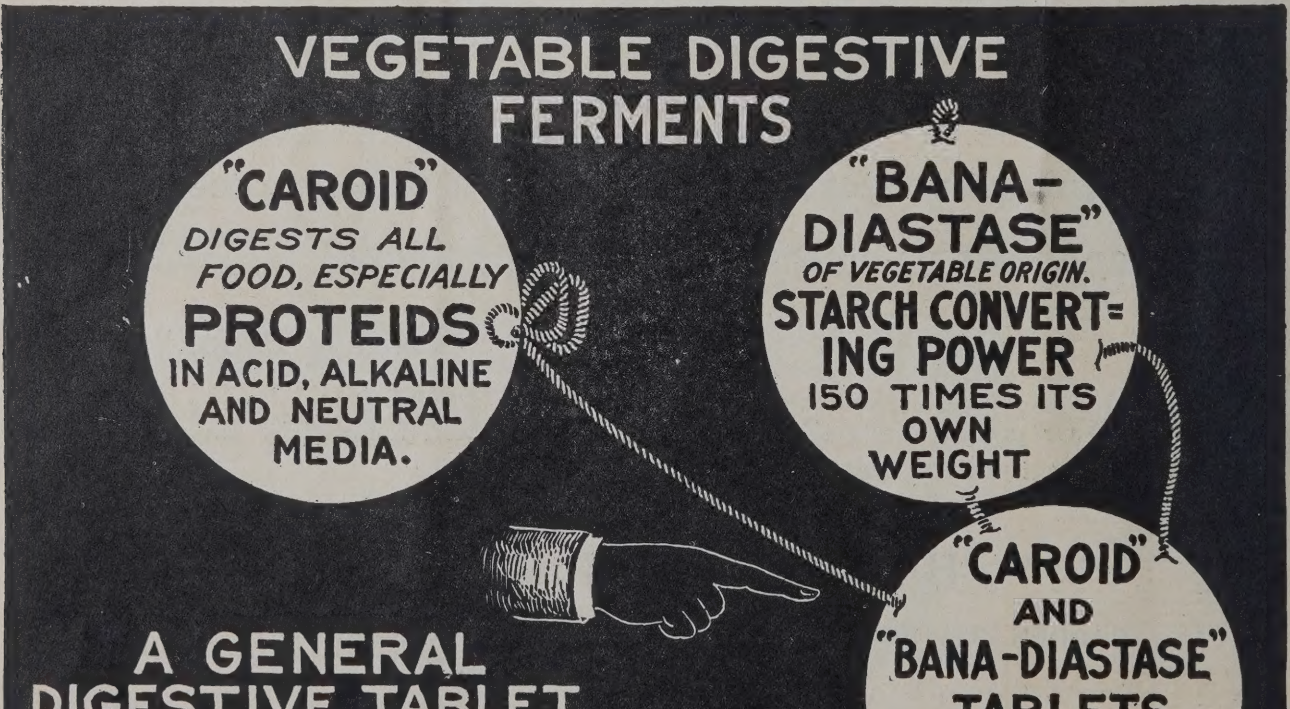

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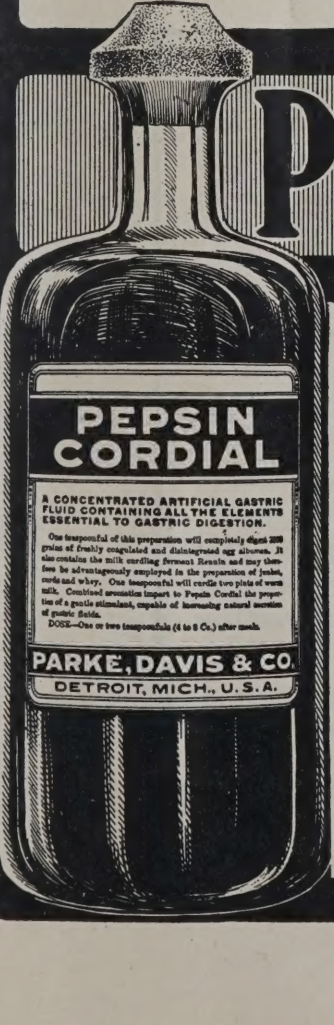
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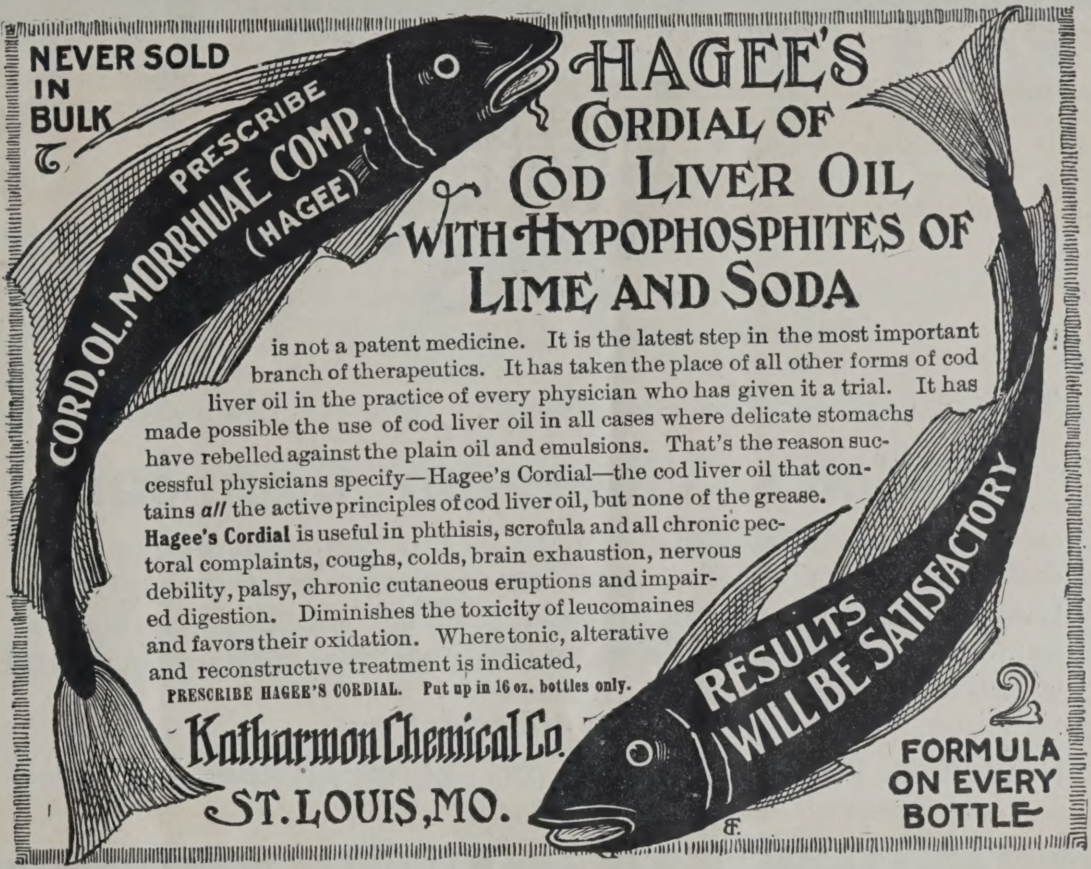

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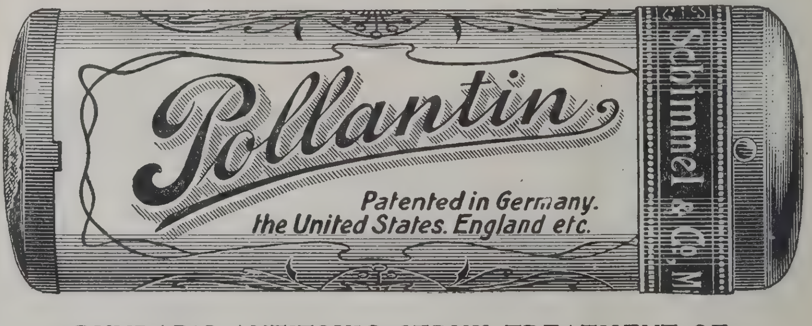

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Another Magnificent Depot in the South. An event of unusual importance and interest to the public, especially the railway world, is the opening of the new Union Passenger Terminal at Atlanta, Ga., on Sunday morning, May 14. This palatial station is the most magnificent, capacious, and most modern passenger station on this Continent. The first train to enter this new station will be the Southern Railway's United States Fast Mail Train, No. 35, from Washington, New York, and the East. This station will be used jointly by the Southern Railway, Atlanta & West Point R. R., and Central of Georgia Railway. A reception for inspection by the general public will be held by the management of the Union Passenger Terminal Company in the new station on Saturday afternoon, 13th instant, and will be a celebration in which all of Atlanta will participate.

Serum Diagnosis of Typhoid Fever. J. H. M. A. von Tiling, of Vassar Brothers' Hospital, Poughkeepsie, N. Y., employed Ficker's typhoid diagnostic recently in a number of typhoid fever cases, comparing it with the original Gruber-Widal test, and found the modification by Ficker to be absolutely reliable, and he therefore recommends it. The test is so simple, the author holds, that every physician will be able to make use of the reaction without difficulty, if only he follows the description that is added to each set, and also takes into consideration a modification which he mentions. This refers to the inconvenience of obtaining the blood by means of a cupping glass. The author has tried to make the test by catching, from a small finger wound made by a needle prick, a few drops of blood either on a glass slide, or, still more conveniently, on a piece of filter paper. After drying, the blood is then dissolved with normal salt solution, in the proportion 1:10. This dilution the author mixes in the required way (1:5 and 1:10) with the diagnostic fluid, and he claims the result was most satisfactory. Naturally, the fluid, under these circumstances, looks reddish, but in it the whitish flocks of agglutinated bacilli stand out very clearly, and the positive result is most easy to distinguish. In conclusion, the author has a few words to say about those cases in which the Gruber-Widal reaction proves negative, while all the symptoms tend to the diagnosis of typhoid fever. He thinks most of these cases are the so-called paratyphoid fever, and suggests a paratyphoid fever diagnosticum to be used in such cases.—Med. News, Feb. 4 1905.

Howard A. Kelly, M.D., Professor of Gynaecology, Johns Hopkins University; Gynaecologist in-Chief, Johns Hopkins Hospital, says the following in a paper on "The Treatment of Pyelitis," read before the Medical Association of the Greater City of New York, March 13, 1905: "Urotropin is the most valuable remedy we have today; it is also useful in preventing the disease (pyelitis) where previous experience has shown that we might expect an attack, as for example in a patient with a dilated kidney. It is of most service, I believe, in recent cases of colon bacillus infection."—Medical Record, April 8, 1905.

Japan's War on Disease. Typhoid, that dread scourge of soldiers, has been almost eliminated from the Japanese army in the present war. This is only one of a number of achievements in the prevention of disease and death which I observed while supervisor of nurses at the great base of the army at Hiroshima, while on the hospital ships and while at hospitals on the Yalu river, in Manchuria. At these and at other places I had exceptional opportunities for noting the medical, surgical and sanitary precautions which have produced such remarkable results. In the three months following the battle of the Yalu (May, June, July) General Kuroki's army had only eighty-three cases of typhoid. There were only one hundred and ninety-three cases reported in General Oku's army from its landing in Manchuria, May 6, to the end of the following January. Of the many thousands of patients treated at the great base hospital of Hiroshima, Japan, prior to the end of September, there were only fifty deaths of men who had typhoid, and a large proportion of these deaths were actually due to beri beri, wounds, or other complications. Contributory to these results are undoubtedly the facts of the great attention paid to sanitation, of the daily consumption by every soldier of several pills of germ-destroying creosote and of the isolation of every case of typhoid, which is treated as a contagious disease.—Anita Newcomb McGee in May Century.

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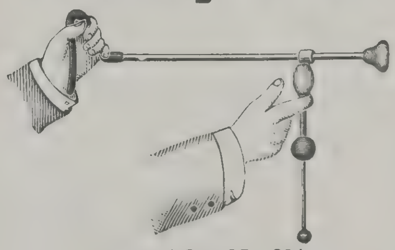

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SANITATION AND ISOLATION, TWO REQUISITE FACTORS IN THE ERADICATION OF THE TUBERCLE BACILLI.*

BY WILLIAM HOOKER VAIL, M.D., ST. LOUIS, MO.

MUCH learned literature has been written and published on this noble and all-important subject, respectfully mooted by all classes of men of common sense and learning. Yet the woeful disease separates loved ones by the thousands, from that most sacred place—the home. It is increasing its number of victims in the face of all opposition. It has become universally a menace to human life. It has turned the land of our cities into a vast Golgotha. I believe it is the most infectious and contagious disease that we are called upon to treat. The intricacy and capriciousness of the disease and the idiosyncrasy of the individual, call forth the greatest intrepidity and effort from all forethinking citizens, from all over this globe, that we may attain a perfection of sanitary cleanliness so complete in detail, that the intricacies of infection may be reached and effectually destroyed in order that all creatures may dwell in this beautiful world with impunity.

The profession has conceded its inability to combat its steady increment among our people or perfect a method of treatment which carries with it the respect of the profession and the laity. The work has been left largely to the capitalist, the philanthropist and the humanitarian. Many things in this regard that should have been given the most careful solicitude and consideration by the profession have been, I am sorry to say, shamefully and unpardonably disesteemed by those who were in a position publicly, politically and financially, to influence and perfect ways and means for its compulsory relegation. Physicians are to blame for this direful state of affairs, that still no halter has been placed upon its unlimited dissemination, though for years, an urgent perfection of sanitary measures and isolation of the subjects has been known to check all other direful maladies. It is not so long since when we were infested with yellow fever and the epidemics of cholera from 1833 to 1866, when all the excrements of the natural emunctories (defecation, micturition), sewers, garbage and cesspools were on the surface of the earth, and under our very abode. Our greatest triumph in mastering these epidemics at that time was by sewerage, cleanliness and speedy disposition of all excreta and cholera bacilli, conjoined with rigid enforcement of sanitary laws and isolation of our subjects. We have only partially perfected these essentials by which we are to nullify contagion. Go into the slums and dark alleys of our cities and you will find filth and rottenness enough to infect and contaminate the entire state. The cholera bacillus, which was discovered by Koch, who later also discovered the tubercle bacillus, receded from place to place, along the beaten paths of travel, as rapidly as the means of human communication rendered it possible, while the host of tubercle bacilli is found in the intricacies of all substances, hence in dealing with them we have a much more formidable foe to conquer. For years, in fact, ever since the inception of tuberculosis, the tuberculous patients have been privileged the full authority and communication of the entire circumference of the globe. Is there any reason why to-day, we should allow this great white plague to infest the breath and food of all living creatures in all the walks of life?

The tubeculosis germs lie beneath your feet; they fill the air that is wafted into your face: water and food are conveyers of this insidious foe; the fly transmits it from place to place and from home to home; by the mosquito and by vaccination it is probable that every pure and healthy child's stream of life blood is inoculated with tubercle bacilli, indeed there are so few exceptions where the germs of this terrible disease are not found, that one must take a very broad view of the dangerous situation in order to feel safe to dwell upon this grand old earth at all. So artful, so crafty the onset and so protracted the development, the individual remains unsuspicious of its presence, and still a single person with consumption may cause thousands to fall victims to the disease. The universality of the germs and the susceptibility to the disease demands strict enforcement, of isolation, of sanitary measures, and the early detection of its incipiency or pre-tubercular stage. The unsuspecting patient is scattering the seed by expectorating promiscuously on the streets, in cars, even on the floors and carpets of his home. He may cough in your food, in the air you breathe; he infects the drinking vessels, the books and newspapers you read, and in a multitudinous manner spreads the germs among the people, entirely innocent of the great calamity he is producing. In my judgment, isolation, sanitation and fumigation, the annihilation of the fly and mosquito, and a vigilant supervision of the methods of vaccination would very much improve, if not wholly, render the situation comparatively healthy.

We must surmount the difficulties that we know are sure to arise in enforcing tuberculous people to respect the rights of the healthy. The public must be informed as to the contagious nature of the disease, their assistance solicited in perfecting a system of managing this intractable foe that they may become strenuous advocates of the aforementioned methods which will protect the rights of others. It must be educated along this line and taught the proper interrelation of the afflicted and the unafflicted. This can best be performed by the family physician, who is prompt and ethical. It may or may not precede legislation to be made serviceable, but in order that any methods may be of full value to the community, they must take in the early detection of the disease and in our endeavor to detect the pre-tubercular stage, it would be well to study the causative factors, the inoculative methods of the mosquito, vaccination and possibly the exposure of open wounds and surgical operations to the ever-present and floating tubercle bacilli. When Simon, Sanderson, Waldenburg and others attempted to prove that any substance introduced into the circulation by inoculation would produce tubercle, which fallacy was proven later; the real truth was that the person became accidentally inoculated with tubercle bacilli by mechanical means and by the other particle introduced, and thus there was accidentally ushered in, the specific micro-organisms of the disease, hence we should be watchful of what we are inoculating into the circulation, particularly lest we make some egregious mistakes and support and sanction some hazardous practices.

There is no question but that flies, mosquitoes, and I dare say, vaccination, are methods by which the tubercle bacilli are transmitted and inoculated into the beasts as well as into the human family. These usitative and natural courses of sowing the specific virus of tuberculosis should be very carefully studied and experimentally investigated. Much good has been achieved in the malarial and yellow fever districts by the annihilation of these pests and vermin, conjoined with as Utopian a sanitary régime as possible. The fly transmits typhoid fever and other contagion; the mosquito not only does this but inoculates us with the specific poison of yellow fever, malaria, etc. Therefore, is it not possible and probable that we are inoculated with tubercle bacilli by these insects and the process of careless vaccination? The work that has already been done deserves the highest commendation and inestimable good has resulted.

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*Read before the American Anti-Tuberculosis League April 17th, 1905.

When we perfect a state of cleanliness, we will master disease, but at present we are devoid of the common rules of hygiene. The sanitary measures are entirely neglected in regard to streets, sidewalks, gutters, public conveyances, buildings, rugs, carpets, etc., although tubercle bacilli find no perfect medium for existence and propagation exterior to the body, and well it is so, else we would all have fallen victims years ago and perished. They do, however, live and flourish in nearly all mediums, and we must reach them, for the real test of any treatment is not the immediate but the ultimate results; but thus far we have failed in this. In our crusade against tuberculosis, our most important point is sanitation, likewise all the measures that are recognized as meritorious in controlling tuberculosis should be utilized properly. We have not yet arrived at and given due consideration to that all-important feature in the management of disease—prevention—which should be the prevailing idea. Nothing should be too small to escape our vigilance, too great to surmount. Less time should be devoted to the care of the sick and more attention called to the destruction of the seed and the protection of the soil suitable for its growth. This is the solution of the greater problems. However, it is never too late to mend, hence, laws should be brought into force to mitigate the widespread suffering of the people of our country due, largely, to this promiscuous scattering of the seed in fertile soil.

It is stated that one in every seven you meet on the streets of Washington die of this disease, and that nearly every person in that city has consumption in some form. It is also stated that Washington has the greatest percentage of death-rate of any city in the United States. The condition is certainly alarming, but we have been almost as silent as the dead in this awful state of affairs in the true meaning of the term, allowing this enemy to creep into the flesh of probably one-fourth of the population. Laws should be enacted by each State Board of Health, with an ample amount of appropriation, for the most kind and tender care of the afflicted. It is the legitimate function of each Board of Health to properly prepare a bill to be presented before the General Assembly to be enacted into law, to be carried into effect by the officers of the law, and the administration of this law should be confided to the Boards of Health to bring a halt to this dread malady and common menace to the life of our citizens.

We should take great care that we work no hardships upon the already afflicted, but, on the contrary, be well-equipped with funds and means to add to their comfort, health and happiness from the very incipiency of the disorder, first, making the promise, then, fulfilling it, absolutely without cost to the sufferer, for the majority of consumptive patients are indigent. I would even go so far as to say, luxurious attention and environment should be afforded them. Care, food, medical attention, drugs, clothes, entertainments, etc., should be absolutely free. This, I suggest as a practicable compensation to the sufferer for any deprivations he may be forced to endure for the protection of the general health or the community in which he resides.

A person suffering with this disease is very peculiar, as all physicians are aware. It is death to some to remove them from their homes and friends without previously providing similar or compensatory environment. The home and circle of friends with their infinite care and kindness is a great help to them. These patients are eccentric, hypersensitive and exceptionally prone to the slightest affront. They should be rightfully pitied and shown the acme of love, sympathy and devotion. Consumptives are the dire enemy of the healthy individual, but they are irresponsible for their deplorable condition, therefore, we should never forget our respect and devotion to those thus afflicted, hence, as I have before mentioned, whatever methods we decide upon, let them be as fully for the comfort and happiness of the consumptive as for the pure and healthy. When a physician discovers a patient suffering with the majority of symptoms that are conceded by the profession to be tubercular evidence, with which we are all familiar, the case should be reported by the attending physician to the Board of Health, as all other contagious diseases now are, and the apartments of the afflicted person immediately fumigated. Indeed, every home, vehicle and public conveyance in the world should withstand a process of disinfection and fumigation once a year, regardless of the existence of disease of any nature, and all consumptives should be isolated and cared for by the commonwealth. All suspects should be summoned before an investigating board consisting of twelve physicians who should be empowered to make necessary enquiry and properly advise them. The board of examiners should consist of a neurologist, a dermatologist, bacteriologist, ophthalmologist, microscopist, surgeon, an expert in chest diseases and five general practitioners. There should be urgent advice against the construction of flats with dark and crowded apartments; every dwelling should be light and airy. These in themselves would not prevent the contraction of the disease, but would, like other means I have mentioned, be an aid in the right direction. Many will say that such rigid management is impracticable, but necessity is the mother of invention, and such measures are to-day a necessity, and we must not dally with the insidious foe.

As far as I can truthfully learn, and my experience with this complaint teaches me, that we have no specific. Drugs are a great aid, an indispensable ally. Many of the vaunted cures I have found helpful, but the early detection of the pre-tubercular condition cannot be too strongly urged and encouraged, for this is the solution of the eradication of the disease.

The treatment is varied, dry air, sunshine, rest, pure water and a multiplicity of medicaments should be utilized when conditions suggest their usefulness. Any measures that will increase the resisting powers of the individual are requisite in the treatment; also light occupation, freedom from care, amusement, physical and mental. I have found the hypophosphites of inestimable value. Loving friends are a useful and stimulating factor in sustaining these physical weaklings, mentally. All conditions contrary to light, warmth and dryness are pre-eminently conducive to tuberculosis, while the opposite conditions, being nature's antiseptics, are helpful and tend to destroy the tubercle bacilli. The food should be most nutritious, the use of eggs, pure milk and all varieties of nuts, should be compulsory, when they agree.

It would be utterly impossible to go into detail in one paper on this all-important subject, and I have been obliged to omit much of importance and great utility. In my judgment, we should take active steps at once to perfect the laws which should control this great subject. We must also destroy the bacillus as it issues from the body, in the hope that we may eventually free ourselves from this fatal scourge.

"Attempt the end and never stop to doubt,
Nothing's so hard, but search will find it out."

THE PRESENT STATUS OF YELLOW FEVER.

BY GEO. R. REYNOLDS, M.D.

PART I.

THREE years ago Dr. Wyman published the views of the government on the subject of yellow fever; they were as follows:

"SIR: I have to invite your attention to the subject of yellow fever, and to discussions which have been published in the medical journals and in the daily press during the past few months regarding its transmission. The subject is one with which the United States Marine-Hospital Service, through legal responsibility, has been intimately associated since its reorganization in 1871, the publications of this Service being the chief residuary of the statistics and other facts pertaining to this disease. The annual reports are largely devoted to this subject. In 1889 a volume was published entitled 'Yellow Fever, Its Nature, Diagnosis, Treatment, and Prophylaxis, and Quarantine Regulations Relating Thereto,' consisting of contributions by medical officers intimately acquainted with the disease, either by scientific or clinical work. A volume was published in the same year containing a report of a commission of medical officers detailed by authority of the President to investigate the cause of yellow fever. The Service, through its national quarantine stations and cooperation with State and local stations, has many times prevented the introduction and, by its detention camps, the spread of the disease."

"Within the last year a medical commission of the United States Army, operating in Cuba, has made a report, showing that the mosquito conveys yellow fever and declaring that this is the only method by which the disease is conveyed to man and that it is a particular species of mosquito only which thus transmits it. In their conclusions, it is stated that the cause of the disease is unknown. Based upon their findings, demands have already been made upon the Bureau for certain modifications of the quarantine regulations, which, for the present season, the Bureau, with its deemed justifiable conservatism, has declined tomake, but thematter will undoubtedly again be urged during the next season and it is incumbent upon the Bureau to have definite scientific grounds upon which either to modify its present regulations or to maintain them. On the one hand, the Bureau has no desire to perform unnecessary labor, nor to impose unnecessary restrictions upon commerce, its traditional policy being to maintain a scientific quarantine and to impose no restraints upon travel or commerce not demanaded in the light of science and experience. On the other hand, the Bureau cannot, in the interest of commerce, remove time-honored measures without definite justification therefor.

"Since the announcement of the findings of the above-mentioned army commission, the Service has continued the prosecution of its inquiries concerning this disease with special reference to the findings of this commission. This has been done not only in the hygienic laboratory, but by special orders transmitted to the officers assigned in April to the several fruit ports of Central America, to the medical officers in Cuba and Porto Rico and to those at the southern quarantine stations of the United States. A number of reports have been received and published in the Public Health Reports containing facts of interest on the subject. To estimate these facts at their full value, to collect additional facts, and to give direction to future investigation, it has become necessary to devise a plan for a complete study of the subject in all its phases. This duty is incumbent on the United States Marine-Hospital Service by reason of the quarantine law of 1893, which provides for making the necessary quarantine regulations against the disease."

"Section 4 of this law also requires:

"That the 'Secretary of the Treasury shall also obtain, through all sources accessible, including State and municipal sanitary authorities throughout the United States, weekly reports of the sanitary condition of ports and places within the United States, and shall prepare, publish, and transmit to collectors of customs and to State and municipal health officers and other sanitarians weekly abstracts of the consular sanitary reports and other pertinent information received by him, and shall also, as far as he may be able, by means of the voluntary cooperation of State and municipal authorities, of public associations, and private persons, procure information relating to the climatic and other conditions affecting the public health.' "

"That public health work of this character is incumbent upon the Service is further shown by the act of Congress approved March 6, 1901, in which an appropriation is made for a new building for hygienic laboratory, United States Marine-Hospital Service, the function of this laboratory, as stated in the law, being for the investigation under the Surgeon General of contagious diseases and matters relating to the public health."

"Moreover, Congress has provided a fund for the prevention of epidemic diseases which may be applied to this investigation, as there is no epidemic disease of greater importance as affecting the United States than this one."

"In view of the foregoing facts, I have prepared and submit herewith a plan for the organization of a yellow fever institute in the United States Marine-Hospital Service, whose object will be to collect all facts concerning yellow fever, to designate the specific lines of investigation to be made, and to make the investigations. The members of this institution are to be the medical officers of the United States Marine-Hospital Service, and others specially qualified. They will be assigned for duty to one of four sections, each section having a special list of topics for consideration. Each of the four sections will be under the direction of one of the medical officers on duty in this bureau and said bureau officers, with the director of the hygienic laboratory, the Surgeon General, and a secretary, will constitute an executive board, which is to have general oversight of all the investigations. This furnishes a convenient method of administration, as the machinery of the institute will be readily operated in the bureau, while the actual work will be carried on by members at various places.

"At present, the Service work on yellow fever is being conducted by a limited number of officers working on more or less independent lines. The institute provides for observation and experiment by a large number of workers in accordance with a general system—in fact, organizing and co-ordinating the work that has been going on and which is to be done."

"The stimulus to the members will be not only the scientific interest in the subject, but the publication of their contributions in the shape of bulletins as often as it seems advisable to the board; and with the Department facilities and necessary funds for incidental expenses, it is believed that the organization will meet with a degree of success warranting its existence."

Before the American Health Association, Gorgas, the same year stated that he believed that with the total extermination of the mosquito there would be no yellow fever; for the destruction of the new-born stegomyia fasciata, oil has been placed on the surface of standing water, with good results, while the yellow fever patients in the hospitals are protected by mosquito-bars, thus isolating them from this insect-contamination. Formento, while supporting the theory that the mosquito does carry yellow fever, does not think that that was the only method of infection. It would be very fortunate if it were and would greatly simplify the problem; we should not all at once throw away as worthless the experiments of centuries. In the discussion he cited several cases of infection by fomites.

Dr. Wasdin asked whether we should go backward and displace all of our known methods of quarantine; New Orleans has been kept absolutely free from yellow fever invasion by methods to prevent that disease other than any attempt to kill mosquitoes. While he believed that the mosquito was the medium of yellow fever infection, he thought there were likewise other media. Rosenau at the same meeting reported a case of a mosquito living thirteen days in a trunk en route from Neuvites to New York (which fact was subsequently combated by Dr. Reed on the basis of "False observations"). Dr. Rosenau had, by repeated experiments, kept mosquitoes alive in a trunk, in the proximity of moisture, for a period of ten days, and said that water was not necessary to their life, merely moisture.

Dr. Reed, in reply, said that he had the greatest sympathy with Dr. Formento in his belief that yellow fever could be transmitted by fomites, for New Orleans had suffered so severely through its epidemics; he had expected the utmost criticism of his methods in Cuba and if those experiments could not stand this criticism they were not worth much. He had expected all the criticism that had been resented as to his theory of yellow fever infection per stegomyia fasciata, and he had left no stone unturned to produce evidences of contagion of yellow fever by fomites, but could not. The last man experimented with slept in a room, with an average temperature of about 82°, which was kept purposely damp and with no sunlight; he had slept for sixty-five nights in this room, in infected garments, with the pillows and sheet wrung out with blood of yellow fever, in which it was demonstrated that the parasite was present. The doctor cited the epidemic of 1753, in Philadelphia, to prove that contamination was not by fomites; that when the fires in the house were started and ventilation was obstructed, so there could be no ingress or egress of mosquitoes, the epidemic lessened and gradually became extinct. He believed that this parasite of yellow fever does not belong to the vegetable kingdom, but that it belongs to the order of protozoa or some lower order of the animal kingdom.

Reed and Carroll, of the United States Army, in a paper entitled "Experimental Yellow Fever," tried to produce yellow fever in human beings (1) by the bites of culex fasciata which had previously bitten a yellow fever patient; (2) by injecting the blood from a yellow fever patient into a non-immune subject; (3) and by the exposure of individuals to fomites. The authors succeeded in infecting four out of five patients by injections of human blood. These cases confirm the presence of the parasite in the blood of the general circulation of patients suffering from the disease and confirm the possibility of its transference by the bite of the mosquito; inoculation of blood from a case of yellow fever into suitable culture media produced no growth, thus depriving the bacillus icteroides of its position as the cause of yellow fever. The paper reports four additional cases of inoculation of yellow fever by mosquito bites; one of the patients was bitten fifty-seven days after the insects had been fed on a yellow fever patient, and contracted severe yellow fever. The parasite is present in the general circulation of the infected individual both before and after the intermission of the fever. All mosquitoes do not acquire the parasite on biting a yellow fever patient because the organism may not be present in the capillary circulation. The average period of incubation of yellow fever in sixteen cases was eighty-seven and one-third hours, or three days and a few hours. The period of incubation in one case was seven days. The cases may be severe, mild or very mild. Mild cases are difficult to diagnose in the absence of complete data, but such cases may serve as a focus of infection through the bites of mosquitoes. All the cases in the series presented albuminuria with one exception. George M. Sternberg, of the United States Army, said that this demonstration of the infection of non-immune patients by the bite of the mosquito makes clear many apparently contradictory facts concerning the etiology of the disease; it explains the occurrence of yellow fever in stevedores when a ship appeared to have no yellow fever on board. It explains why sulphur fumigation disinfected these ships, also how the infection traveled from a ship anchored in the harbor to the neighboring land without communication with the shore. He considers the demonstration that the infectious agent is in the blood, and that it may be conveyed to a susceptible individual by the mosquito bite.

Taking another form of mosquito Daniels believes that Anopheles funestus is the chief agent in the distribution of malaria in East and Central Africa, for after feeding fifty-seven specimens of anopheles on a patient suffering from malaria whose blood contained crescents, twenty-seven, or 47.5 per cent., were found to be infected; these fifty-seven mosquitoes had fed 129 times on the patient and out of the 129 feedings, infection of the mosquito resulted in forty-six instances, or thirty-five per cent. Man appears to be the only intermediate host of the malaria parasites; from June, 1899, the author made observations on the proportion of children of different ages with splenic enlargement, the absence of this condition in the adults having been previously noted. Out of 851 children under fifteen years old examined, 216 had enlarged spleens. A classification of these observations into a group under two years of age, a group between two and four years, and a group from four to fifteen years, shows an earlier incidence and an earlier decrease in the proportion with enlarged spleens in the more malarious districts; and as chronic enlargement of the spleen does not always follow even repeated neglected infections, it also indicates a very high degree of prevalence of malaria in the natives in early life. The causation of enlarged spleen as a result of malaria is not well understood, and requires further investigation. This effect of malaria is in part dependent on race; no preventive method is or can be of general application to the exclusion of others. A combination of methods strictly in accordance with local conditions promises the best results. The outlook is hopeful, as a reduction in any factor by any one method will increase the effect of any other methods adopted. The greatest difficulty will result from the skepticism with which the subject meets in the tropics. Sufficient regard to the species of anopheles has not yet been paid in describing their habits and breeding places; the very local distribution of some of the species indicates some important differences as yet unknown.

Van der Scheer and van Berlekom report an outbreak of malaria in Middleburg, the principal town in Zealand, where for thirty years this disease had never occurred. There were two marked peculiarities of this epidemic: (1) It consisted only of cases of tertian fever, and (2) house epidemics were often observed. These houses were reinspected this year with accuracy, and several anopheles were found; it became evident that, as in Italy, anopheles live in stables with rabbits, horses, and other quadrupeds, for within such stables in the neighborhood of the infected houses whole colonies of them were found. The authors tried to infect anopheles by keeping them under a mosquito net, together with a person who suffered from malaria, and whose blood contained not only the so-called febrigenous parasites but also gametocytes, which are destined to undertake sexual functions in the mosquito's stomach and to form vermicules. Their experiments were immediately successful, so that, of twenty-two mosquitoes that had sucked blood containing gametes, one or another stage of development of the parasites was found in the bodies of eighteen.

Marcour reports a grave case of yellow fever which he treated with Sanarelli serum; the case was a noteworthy one as it was the first authentic case on record of a grave type of "typhoid icterus" where a patient had black vomit, and recovered under this treatment, and his conclusion was that this patient would not have recovered under any other method. The first organ which responded to the serum was the kidneys, second, the nervous system, while the irritability of the stomach was quieted considerably. Towards the beginning of convalescence an erythematous eruption appeared first at the points where the serum was first injected, secondly, where the skin is thinnest, and later all over the body. This characteristic eruption was also observed in two other cases of yellow fever treated with the same serum by Dr. Marcour, but owing to the mild type of his other two cases he did not think them of sufficient importance to the medical profession to be reported in detail. After the reading of his paper in Havana the President of the Section translated it into Spanish to the Cuban, Mexican, and South American physicians present. Marcour concluded by stating that we need to try the serum only in grave cases, since mild cases recover with simpler methods and good, careful nursing. This authority is convinced that the Culex fasciatus is the only agent capable of conveying yellow fever.

Doty, writing on the mode of transmission of the infectious agent in yellow fever and its bearing upon quarantine regulations, concludes that the treatment of incoming vessels from ports infected with yellow fever is a very important matter; if they are five or more days in transit, and all on board are found to be well after a careful inspection, the vessel, its passengers, and crew shall be released. If the vessel has been less than five days in transit, all on board who cannot present satisfactory evidence of immunity should be removed and held for observation until the completion of a period of five days from the time of departure from the infected port, and then released only after a careful inspection. When yellow fever is found on incoming vessels, the procedure should differ only so far as it concerns the removal of the patient to a properly constructed hospital. He believes that the disease is not contracted by personal contagion or through the medium of clothing, bedding, cargoes of vessels, etc., and states that we are justified in changing our quarantine regulations to conform to these views.

THE OPERATIVE TREATMENT OF GOITRE.

BY A. M. HALL, M.D.

KOCHER, summing up the results of nine hundred operations for goitre, states that he had met but one case in which cachexia strumipriva had developed, for he always left a part of the thyroid gland intact, sufficient to carry on its functions to a moderate degree. In the case he mentioned in which cachexia was present he had removed only one-half the gland, but later, after the operation, it was found that the remaining half of the gland was atrophied, being restored under thyroid feeding subsequently. In reference to his success in operating, he deducted from the total number of cases thirty cases of malignant disease or such as were associated with difficulties that militated against success. Of the remaining eight hundred and seventy cases, eleven died; in six only was the death due directly to the operation, and of these three were of Graves' disease. In consequence, this authority considers thyroidectomy for the relief of Graves' disease a very dangerous procedure, greatly preferring tying not more than three of the thyroid arteries for the relief of this condition.

Goitres are more common than generally supposed, for example, McKenzie, practicing in and about the town of Larkhall, Scotland, observed goitres large enough to attract attention in 25 per cent. of the population, and slighter cases were seen in a much greater percentage. Almost all of them occurring in the mining and laboring classes. Marsh attributes endemic goitre to infection, supporting this view by stating that the disease occurs within well-defined areas, claiming that it disappears entirely after the introduction of proper drainage, and that the water from certain wells produces goitre, but becomes harmless after being boiled; unfortunately for this theory, its general endemic appearance in Larkhall cannot be attributed to the water-supply, since it is the same as that of a nearby town in which goitre is unknown.

Lediard reports many cases of goitre occurring in the lake regions of Cumberland and Westmoreland, in England. He states that this region is remarkable for the beauty of its scenery, due to the great number of hills and lakes; the rain-fall is in parts heavier than in any district in England, reaching in places one hundred and forty-three inches a year, and the rivers, though not large, are numerous and frequently in flood at certain seasons of the year, and there is no question to Lediard that to the copious saturation or swamping of the soil, is due the frequent occurrence of goitre. This district is scantily populated, the remarkable fact is apparent that the instances of sudden death from pressure on the trachea are met with here as they do not seem to be found elsewhere. In Lediard's experience, women present themselves for treatment more frequently than males, although this may simply mean that the female sex is ever more alive to the presence of such deformities, but the fatal cases induced by sudden suffocation as the result of the pressure exerted by rapidly growing goitres are not limited to the female sex.

There are many remarkable features in these cases; the painless nature of the disease, uncertain in its growth, calling for attention only by its bulk, manifesting itself in all its dangers only by the sudden manner in which young lives are snatched away at short notice. These facts may be incredible to those whose practices do not lie in a goitre-producing district, but unhappily it is the experience of nearly all practitioners in Cumberland and Westmoreland. To the adult the goitre, aside from its hideous deformity, is of no immediate danger, but to the girl or lad of fourteen, fifteen, sixteen, or even of twenty-five, an enlarging thyroid gland becomes a serious matter; and the explanation is simple from a mechanical point of view, for in the young the rings of the trachea, formed as they are of soft and elastic cartilage, lend themselves in a dangerous manner to outside pressure; surrounded on three sides, as the trachea is, by the thyroid gland, all goitrous enlargements cannot fail to produce an unexplainable and mischievous arrest in the expansion of this air-tube, flatten it when expanded, or cause deviation of the air-tube. With regard to the causes which lead to sudden enlargements of these diseased thyroid glands, there is no explanation offered. An easily compressible trachea is so far compressed that it needs but another straw's weight of added pressure to cause death; it may be that sudden vascular disturbance from an unknown cause furnishes this straw's weight of pressure required in order to suffocate the individual. At any rate, this sudden occlusion of a compressed trachea is so rapidly fatal that the surgeon often is called in too late.

The largest goitres are found in the necks of elderly women; fortunately, in such cases there is no danger to life, for the hardened rings of the trachea are able to hold their own against pressure from without from enlargements of this nature, and let a young person get past twenty-five without dangerous symptoms appearing, and in all probability such symptoms will never appear. Perhaps it would be as well to give one or two examples to illustrate what has been said as to dangerous symptoms arising unexpectedly in young people. Lediard was summoned to the village of Wetheral to perform tracheotomy, on a healthy looking girl of sixteen with a large goitre, whom he found in a dying condition; he made an incision down the neck, thrust aside the halves of the tumor, dug a road to the trachea, and inserted a tube quickly as there was no hemorrhage. He resorted to artificial respiration unsuccessfully, and a girl, who had up to that time been perfectly well and who had not been complaining in any way, thus suddenly died. A bit of the thyroid gland on section showed large spaces filled up with yellow colloid material with intervening septa of fibrous tissue. These and similar cases which could be related are more than sufficient to prove that, associated with goitre in young persons of either sex, grave danger may suddenly appear at any time.

Warned by such disasters, it is well to advise in all cases of goitre in the young, where trachea pressure is evident, early removal of one-half of the gland. Tracheotomy will relieve these cases, doing away apparently with the necessity for severer measures, but it will be found not only very difficult to perform, but practically useless, and useless is the division of the isthmus of the thyroid. Tracheotomy, performed for the relief of the dyspnea or suffocation in goitre on one difficult owing to the enlargement of the gland on one or both sides of the isthmus. The growth of the gland tends to deepen the position of the windpipe apparently, and render the operation troublesome. Moreover the trachea will be found displaced. Deviation to one side or the other is common or even a multiple curved form may be induced by the pressure. The trachea may be flattened laterally, or it may be flattened from before backward. Abandon all attempts of that kind, and relieve spasm or suffocation by liberating the tube of the trachea from adjacent pressure; which may extend for several inches along the tube, and, if present at the point where the trachea disappears behind the sternum, a tracheotomy-tube would not be of use, unless of great length.

Although Lediard reports very pessimistically his experience in goitre in children, yet other authorities have been more favorable in their accounts, for example: Firbas reports three hundred cases of goitre in children; most of them girls. The enlargement of the gland present at birth lessened on a milk diet, but it returned when a mixed diet was given. He gave raw thyroids and tablets of desiccated glands once or twice a week to twenty-seven cases, resulting in a reduction in the size of the gland. There were no intoxication symptoms and the best results came from the use of the raw gland. Shields has reported a case of acute thyroiditis in a baby followed by atrophy of the gland. The child developed into a cretin.

Frequently the enlargement may diminish under iodide of potassium given in almost poisonous doses, and the stridor disappear, but it is hard to distinguish cases which can be safely treated by iodide of potassium and those which should be operated upon without delay. Some persons are unable to tolerate iodide of potassium, and if so, that would form an additional reason for early operation. With regard to morbid condition of the gland found in goitre, it varies much with the length of time it has existed. In an early rapidly-growing gland a large deposit of colloid matter exists, in the spaces between the stroma of the gland. In older cases, cysts containing a sanguineous and glutinous fluid may be found, associated with colloid deposit. In yet older cases cysts and colloid material may be found, with much fibrous tissue and cretaceous matter.

In recent cases the diseased gland may be found projecting into the bag of a large cyst, into which the entire lobe of the thyroid has been changed, while the isthmus may be the seat of cystic formation or simple enlargement.

The thyroid enlargement may stretch behind the posterior pillar of the fauces and where pressure has been marked the goitre is usually solid. The interior of the gland is by no means vascular, and a lobe may be cut from its fellow or from the isthmus with scissors, without any risk of troublesome hemorrhage. Experience has taught all surgeons to remove one-half the gland of its isthmus only. No one now thinks of removing the whole gland on account of the risk of inducing the general condition known as myxoedema; indeed, as far as removing a possible source of danger is concerned, there is no need to remove the whole gland, for the trachea is liberated if one-half is removed. A good light thrown directly on the neck is needed, a pillow should support the shoulders to protect the cervical region; then make a central incision; the longitudinal veins found beneath the skin can be turned aside with a retractor, and if division of one is unavoidable, it can be tied in two places and cut between the ligatures. Reach the goitre quickly, for the sterno-hyoid and sterno-thyroid muscles may not even be seen, it is important not to cut the capsule of the gland, otherwise hemorrhage commences at once, delaying the operation. Sweep around the tumor with the finger and separate all connection with the loose cellular tissue in the deep as well as superficial portions of the growth; at this stage the goitre can be shelled out through the skin incision. With the forefinger endeavor to hook the inferior thyroid artery, and if found, pass a silk thread round it with an aneurism-needle. Do this also with the superior thyroid artery; but if these arteries have not been found, a careful search must then be made along the deepest part of the attachment of the gland, when, probably close to the trachea, they may be seen. With these vessels out of the way, all risk is at an end. Adhesions to the trachea should be separated with the handle of a scalpel, but they never cause any real trouble; the scissors are also useful in detaching the tumor from the trachea, provided they are used with an exact knowledge of what is going to be cut, but a snip of tissue deep down in the neck may be attended with troublesome hemorrhage. Avoid profound anesthesia, because when the goitre is being drawn out of the neck there is sometimes considerable traction of the trachea, and embarrassment of the breathing is thereby produced. In separating the goitre from the side or front of the windpipe adhesions spreading over an inch or more of the rings of the trachea are found, and it is at that time that the various deformities caused by pressure may be seen. The trachea may be seen curved, wedge-shaped, narrowed, pushed out of place, and even may be difficult to find for a moment, except by the touch of the finger. There can be little doubt, however, that the sudden division of the superior thyroid artery in an unexpected moment may create difficulty and even danger, so endeavor to hook either this artery with a forefinger, or else to search for it with the naked eye, and to tie it securely before using the scissors. If the breathing is much embarrassed during an operation, there will naturally be much distension of the cervical veins, and if these have been cut hemorrhage will follow; push veins to one side and hold them out of harm's way by retractors. Use the knife as little as possible, for it will be found that goitre may for five-sixths of their surface be cleared with a finger only, and the remaining sixth will consist of deep adhesions to the trachea and blood-vessels; for these use scissors. Make the skin incision of sufficient length to allow of the delivery of the goitre in the manner described, but its size or length is of moment only when the resulting scar is taken into consideration. A scar is left which is very disfiguring upon the neck of a girl, and this has probably induced Kocher to advise a transverse curved incision to avoid disfigurement. The immediate effects of union of the incision will not appear unsatisfactory, but later the stretching of the scar produces a ribbon-like band down the centre of the neck. If the opposite side of the thyroid advances, as it may do, towards the middle line, owing to the space being clear, the scar is liable to be stretched. A curved incision with its convexity towards the sternum might possibly obviate the subsequent disfigurement. With reference to the treatment of the wound, it is as important here as at operations in other parts of the body to leave the wound dry; a sponge may be left in the cavity previously occupied by the goitre, whilst stitches are passed through the skin. With a dry cavity free from oozing, closure without a drainage-tube may be attempted. The most satisfactory union obtained is where no drainage-tube was used; immediate healing was the result, and the patient left the hospital in less than fourteen days. If a drainage-tube is used, it should be left in only for twenty-four or forty-eight hours. Pressure should be exerted on the neck after the operation as far as possible, and the head and neck kept rigid by the dressings and bandages. At first the effects of the removal of a goitre on one side may seem disappointing, for the stridor not only does not disappear, but may be more evident. In a few days, perhaps three or four, the evidence of pressure will disappear entirely. The healing of the wound may be retarded by a collection of serum in the pouch left, and by the subsequent change into pus; the great object then is to dry the wound and apply pressure, if possible without a tube.

Pneumonia is to be dreaded after operation, especially in poorly developed, weakly girls. Prevent chill in conveying the patient to and from the operating-room, and keep the body well covered during the operation; in addition keep the operating-room free from dust, and these precautions should tend to the prevention of pneumonia after such operations.

Twenty minutes to half an hour is the length of time needed to complete the operation. In liberating the goitre with the finger from the surrounding attachments, it may be necessary to seize the thyroid gland with the fingers of the right hand whilst the forefinger of the left is used for the separation. When the separation is nearly completed, it may be needful to introduce three fingers into the wound and pass them behind the goitre in order to deliver the tumor outside the wound. In the patient from whom half a goitre has been removed, at first a disfigured condition of the neck is evident, on account of the flatness of one side and the swelling on the other side from the half of the tumor remaining. Generally the other half of the goitre diminishes in size slowly but steadily, and the symmetry is soon hardly apparent. In order to avoid any tendency to extra growth it is well to remove all tumor growth from the centre of the neck, and if the isthmus is found enlarged as well on one side, to remove both, because, as has already been pointed out, the removal of one side seems to allow the other half of a goitre to advance towards the middle line.

In exophthalmic goitre, operations have not only been advised but undertaken in order to cure this condition; here the size of the thyroid in these cases is never very great, nor pressure upon the trachea very marked; at the operation there may be no special difficulty, one-half of the goitre can be removed with ease and the amount of hemorrhage inconsiderable and the time occupied should be brief and the patient back in bed in less than half an hour. Vomiting, high fever, suppression of urine, nervous excitement, and much lung disturbance, suggestive of commencing pnuemonia followed; in some cases, the patients dying subsequently. The experience of surgeons has been unfavorable in these cases.

In place of operating in these cases, Rockwell, from the treatment of forty-five cases of Basedow's disease —dating from 1876—says that the prognosis in this disease is better than is generally supposed. Fourteen of these cases either fully or approximately recovered, twenty-seven were benefited, some of them in a very great degree, others only slightly, while three were in no way benefited.

Some of these cases that were much benefited relapsed and received further treatment with good results, while others have been lost sight of and their subsequent history is unknown. The electrodes used are of sculptors' clay, enabling him to apply as high as from 20 to 60 milliamperes to the neck. If his results in the treatment of this disease have been exceptionally good, he attributes it to the fact that he has not confined his efforts to the use of drugs and the galvanic current alone, but has in many instances combined with these methods the most thorough and persistent treatment by general faradization. While he considers electricity of more importance than any other remedy, he follows rigid rules in eating and drinking, avoiding all excesses.

In the various phases suggested in the pathology of exophthalmic goitre, Schwerdt proposes the most fantastic theory, suggesting that it arises from enteroptosis, through disturbances of the lymph stream, the goitre develops. The chyle is not carried properly through the thoracic duct, the movements of the diaphragm are less effective, hence the lymph becomes mixed with that in the general circulations and seeks subcutaneous channels; stasis follows, especially in the orbit producing exophthalmos. The thyroid overacts in an endeavor to neutralize the toxic substances absorbed into the system. It is an ingenious theory but unsupported by facts.

15,000 street accidents in London yearly, states the *Standard;* and that city is still only talking of horsed ambulances and an ambulance system. At present the police trundle the wounded in a push cart to the nearest hospital, where they get the first surgical attention.

THE INSANITY OCCURRING IN EPILEPSY.

BY M. E. FITCH, M.D.

THE mdico-legal aspect of this form of insanity is most interesting and vital, as epilepsy is a disease common among criminals. It is a delicate problem to decide how far the presence of epilepsy renders its subject irresponsible for crime in the eyes of the law. There are no symptoms which are uniform and there are all degrees of mental impairment in epileptics.

I recall, as I write, a curious case of an intelligent, beautiful girl, who accused a friend of an attempted criminal assault upon her. It created great surprise at the first, but I knew the underlying facts; the girl was an epileptic; I had attended her for years, but as her attacks were nocturnal, this fact was unknown to friends or even to portions of her family. But she was a liar as thorough and artistic as any morphine habitué. For example, she had been given bromides by a previous attending physician, which I had stopped, and she assured us on her word of honor that she was taking no medicine surreptitiously as she had done before; but her mental condition became so poor and depressed that I doubted her word and a thorough search of her bureau drawers discovered a large bottle of bromides, which I learned from the druggist had been repeatedly renewed for months. Her word had been so solemnly given that I resolved on a corresponding deception to demonstrate to her that she did not need the medicine. We refilled the bottle with a mixture of salt, ammonia and various harmless constituents, which she took regularly, but as she supposed, surreptitiously. Later, when we told her what we had done, she was not upset as a normal person would have been by being detected in a falsehood, but she laughed gaily as if she had done a clever thing. Her word was absolutely unreliable and yet had she gone on the witness stand against any man, her shrewdness, her beauty and apparent intelligence would have sent him to jail very quickly, yet her own story of this alleged assault was curious: She had dined with the man in a public restaurant an hour after she stated she had repulsed him and remained on good terms with him until she wished to ingratiate herself with some people whom she knew were unfriendly to him. They had clutched at her story and by their sympathetic treatment and suggestion, her story grew and grew and yet, for she was married by this time, her own husband disbelieved her story, as he had grown to know her character for veracity. Yet I realized that this woman seems to believe her tales, it is impossible to phase her; there is a curious twist in her mental makeup and the question arises—has she crossed the borderline that surrounds real insanity?

Some patients show practically no defects except immediately before and after their seizure, and I believe such should be held for crimes committed in lucid intervals, for we must not assume because a patient is epileptic and has at times mental disturbance, that he is necessarily irresponsible for his acts in the intervals between attacks, yet the proximity of a wrong act to a seizure suggests mental impairment at the time of commitment, but the mental disturbance following a fit is different in different cases; for example, a man who is perfectly sane a week after a fit can be irresponsible for an act committed a day after a fit. Suicidal and homicidal acts are committed subsequent to epileptic seizures, as the result of automatism or an uncontrollable impulse without motive, or during the fury of epileptic mania or instigated by the promptings of a deluded mind; their impulsive acts are like explosions, and, being dictated by a leading idea, are irresistible. Often epileptics realize this, and will ask to be put under restraint, so as to prevent the committing of acts which they feel powerless to resist; there is this feature about the acts of epileptics, an impulisve act has not only great suddenness, but generally an entire absence of motive. If crime seems due to deluded-mind, we may find that the delusion existed prior to the epileptic attack, and was acted upon after the fit and before consciousness was fully regained. Lewis, an excellent authority on this subject, says: "In deciding the question of responsibility we should ask ourselves:

"Was the act characterized by complete automatism?

"Was the patient sufficiently conscious to recognize its nature?

"Was he sufficiently conscious to recognize its criminal nature—that is, the distinction between right and wrong and the probable issue?

"Or, if the latter was the case, was it the outcome of insane delusion or perpetrated as a purely uncontrollable impulse?"

Epilepsy may be feigned, even to the extent of actually inflicting personal injury by falling in some public place; in time, the fraud would be detected, for the phenomena of the seizure cannot all be assumed, even by the most expert actor, for the pallid face, the dilated pupil, the clonic spasms, cannot be simulated. Yet if a criminal, possibly accustomed to associating with genuine epileptics, assumes the character of epileptic insanity, it is difficult to detect, for epileptics are very sly and cunning, and have been known to obtain some privilege or indulgence, to simulate a condition of mind not actually present; watchful, intelligent supervision, extending over a considerable period of time, is the only means of deciding in exceptional cases.

Epileptic insanity is that form of mental derangement in the clinical history, in the manner of invasion, and in the further development which is associated with the epileptic neurosis; only a few epileptics become insane, and the mental derangements of these may assume the form of maniacal excitement, of mental depression or enfeeblement or dementia, of delusion, preversion or perversions of the moral make-up. Puberty in the male and the establishment of menstruation in the female between thirteen and sixteen years of age are especially dangerous in the lives of patients with a neurotic taint, yet only an hereditary taint of epilepsy or insanity can be traced in one-third of the cases, and about one epileptic in ten is liable to be a sufferer from epileptic mania. Outside of hereditary and traumatic causes, fright in persons under ten years of age and excessive mental worry in those who are older are the commonest exciting causes; to trace the cause of the first fit is generally impossible. The public have a dread of acknowledging any predisposition either to epilepsy or insanity, and regard an ancestral weakness in either of these directions as akin to disgrace, so that cases beginning in infancy usually are assigned to the irritation of teething, and of late years, eye-strain in both children and adults has come to the front as an exciting reflex cause. Epilepsy has been generally classed among the functional nervous diseases, but if the pathological investigations of Bevan Lewis are correct, there is an anatomical lesion; thus far gross changes in the brain and its membranes are known to be causes of epilepsy, but Lewis, by microscopic investigations, finds evidence of degeneration in certain of the brain-cells of the cortex. He explains this as follows: "The cells of the second layer, characterized by the large size of their nuclei, and to which he assigns special inhibitory powers, undergo changes and their nuclei are removed by fatty degeneration; to this the term vacuolation is applied. The ganglion-cells of the fourth layer, regarded as especially motor in function, are also degenerated, readily parting with their nerve-force, of which they appear to be reservoirs, and which, owing to the loss of control from the changes in the cells of the second layer, is delivered as a 'sudden, rapid, excessive, and occasional discharge,' constituting the phenomena of the disease; epilepsy being the result of such an explosion of nerve-force, occurring in the cells of the cortex of the brain; For a long time the theory advanced was that known as the vaso-motor, by which was meant that the loss of consciousness and the convulsions of epilepsy were the result of vaso-motor excitement causing spasms of the cerebral arteries and sudden anemia of the brain." Cerebral anemia can have such accompaniments, but we do not think that the assertion that the brain is anemic when a convulsion occurs has been proved, for pallor of the face is no more indicative of this condition than suffusion the opposite state. An epileptic seizure is the result of a sudden, rapid, and excessive nervous discharge, and the investigations of Victor Horsley limit this discharge to the cells of the cortex, and show that a condition of congestion, not anemia, exists. Among the insane this discharge is attended with an expenditure of force out of all proportion to the normal physiological outlay, inconsistent with the continued healthy brain activity. It may occur in any part of the brain; may begin in one and spread to other regions, and so may give an almost endless variety of motor or sensory effects. In petit mal, motor effects are less evident than sensory; hence this variety of the disease is more dangerous to mental stability than the grand mal and is more apt to be followed by insanity. Grand mal in epileptic insanity is usually very severe and the convulsions are terrible to witness. Here is a typical clear-cut case of epileptic insanity: A woman, thirty years old, has been an inmate of an asylum for four years; subject to violent outbreaks of temper, during which she committed several serious assaults, of which she afterward said she had no recollection. With a family history of insanity, her mental development is poor, and she grows duller and more stupid. Shortly after her arrival, she dropped her work, ceased walking, and her face was pale, the muscles of the left side twitched, her pupils dilated; then the face flushed, her hands were raised, and before she could be checked she nearly succeeded in removing her clothing. In a few seconds she started forwards, her pupils contracted to normal size, she drew a long breath, looked around in a startled, surprised way, regained possession of her knitting, and recommenced work. The whole attack scarcely lasted over a few seconds. When spoken to regarding her acts she denied having committed them. This was a case of petit mal, but did not continue as such, for a few days afterwards she had a typical attack of grand mal, and her seizures have continued to the present time.

In another case, a man, aged forty, has attacks of grand mal occurring generally at night, or towards morning; a series of epileptic fits is succeeded by a maniacal condition lasting from a week to ten days, when he is noisy, abusive and very violent; has no recollection of what he has done when he gets better. He is a strong, robust man, a religious bigot, and, even when comparatively well, a complaining, faultfinding patient; the usual phenomena observed in o rdinary epilepsy are present in this patient. First the cry, which varies from a moan to a shriek, then the fall, with tonic spasm and cessation of respiration, succeeded in a few seconds by clonic spasms, which begin as tremors or twitchings and rapidly pass into violent jerks, champing of the jaws, escape of froth, often bloody, from the lips, and an involuntarily passage of urine, more rarely of feces; then a gradual restoration of normal respiration, a lessening of the jerks, and, when, they cease, a look of vague dread in the face, a feeble effort to get up, ending in the patient's falling back and going to sleep for a varied length of time. The face is usually bathed in sweat, and frequently this is strongly odorous. After the sleep the patient may appear merely stupid, or go into a state of automatism or of mania of variable duration, or resume the ordinary condition which existed before the seizure. There is apt to be a periodicity in the occurrence of the fits. The number of fits occurring during a period varies from two to three to many more. In some cases also the "status epilepticus" may set in. In it the convulsions recur with no interval of consciousness, the temperature rises as high as 106° or 107° F., evidences of pulmonary complication appear, and the patient is apt to die. One case has been reported where there were three hundred and sixty-five fits in twenty-four hours. They were less severe, till finally they seemed more of the nature of spasms than pronounced convulsions, not always followed by acts of violence. In some cases they seem actually to result in calming the individual, clearing the mind by a nerve-storm as we see a thunder-storm clear the atmosphere on a murky summer day. Attendants learn this, and will tell you, in speaking of some patient who is specially irritable, "Oh, he is going to have fits, and will be all right after that." A distinct aura cannot often be discovered; the mental condition may prevent them appreciating or explaining such sensation. The premonitory signs occur frequently as peculiar sensations in the head, discomfort or actual pain, or in the digestive tract a feeling of fulness or an attack of diarrhea. Marked change of ordinary disposition is frequently seen; in rare cases it takes the form of hilarity, excessive talkativeness, or unprovoked laughter, or there may be irritability, moroseness, attacks of unprovoked violence upon any one within reach, complaints of ill treatment. One patient states that just before having a fit he feels his stomach distend, that the wind passes to his brain, and he remembers no more. A woman had a visual aura; seeing a light over her left shoulder. When first seen it was not larger than her fist. It approached rapidly, growing larger, and finally a figure of a woman emerged from it, who struck her on the head and she became unconscious. These people generally exaggerate their pains and aches, giving rise to a marked condition of hypochondriasis; every little symptom of physical discomfort is enlarged. No doubt they do have some of the ills of which they complain, but it is their mental state which causes them to regard these trivial signs as serious symptoms. Insane epileptics are inclined to steal; these patients will take anything they can lay hands on, and even strip fellow-patients of various articles of clothing; there is a propensity to lie, as I have written. taking the form of simply denying their own acts, or of making false charges of various kinds against attendants or fellow-patients. They need not knowingly lie, but they imagine things which have never occurred, or they misconstrue those that have, and in either case draw wrong conclusions. The acts committed by epileptics while in the unconscious stage of epilepsy, or the automatic condition which succeeds it are of great importance from a medico-legal standpoint. It is well known that patients may walk about the wards, avoiding obstacles, picking up and secreting articles, and yet perfectly unconscious of what they are doing, and then falling in a convulsion, and at times an amount of apparent premeditation exists which makes it difficult to believe that the act or acts are involuntary or not deliberately planned. The epileptic is very sly, and often keenly alive to the fact that if charity covers a multitude of sins, insanity covers them all, as a lunatic of this class once said. The automatic acts after a convulsion vary greatly as regards their variety and harmlessness. They are a very dangerous feature in the disease, and some of the most diabolical crimes have been committed by epileptics in this state—such crimes, of course, being far more apt to occur outside than inside the walls of a hospital. It has been noticed, too, that the act or acts, the ideas, delusioned or otherwise, prevailing at the preparoxysmal stage are likely to become operative in the post-epileptic automatism. Even words and expressions used immediately preceding a seizure are repeated immediately after; in observing the symptoms in epileptic insanity, we must guard against allowing the things which are seen to distract our minds from the careful study of underlying conditions. A characteristic of the disease in lunatics is the brutal nature of the discharge of nerve-force, resulting in violent motor disturbance.

While motor convulsions are objective signs, involuntary movements or convulsions are also plainly visible, but it is not so with the sensory effects of a nerve-discharge. Does this not paralyze the higher, restraining mental functions, and allow the substratum of brutality to take possession of the man? No matter how premeditated a wrong act appears, it is probably just as involuntary and as much beyond the control of the patient, as are the convulsions.

Another interesting phase of epileptic insanity is the inter-paroxysmal states; the mental condition after the ending of a series of seizures and before the beginning of the premonitory symptoms of another series varies greatly, for some few patients recover what may be called a perfectly normal condition of mind, in which no intellectual or emotional change can be detected, and they are quite capable of correctly performing their ordinary work; a stranger seeing such a case at this time would wonder why it was in an asylum, but because of their instability, because there are periods in their lives when at large would mean danger to themselves and others, it is best to confine them. There are patients who recover a degree of their former mental vigor, but who continue to harbor delusions, or whose emotional sphere is never evenly balanced. Another class, comprising the most objectionable and the most dangerous lunatics, exhibit throughout these intervals strong intellectual perversion. Their passions are always rife, and upon the least provocation they are guilty of dreadful acts.

In epileptic dements there appears to be nothing left of the higher nature, their only desire in life is to gratify the lowest and most brutal passions; the most repulsive people with whom we come in contact. There appears to be no rule that can be laid down as to what the effect of epilepsy will be upon the intellectual life.

The prognosis of epileptic insanity is poor; such cases rarely recover. In speaking of prognosis, we must bear in mind that we refer to the chance of recovery from the epilepsy and not necessarily to the duration of life, for epileptics are frequently long-lived, especially if they are so placed that the danger of accidental death is reduced to a minimum. Barring accidents with great care, life is frequently prolonged to a ripe old age. In treatment, the object should be to lessen the number of fits, to control the violent symptoms, to maintain the general health, and to guard against accident; the bromides are the remedies from which we have the best results in the first indication; given twice a day, in doses from twenty-five to forty grains in plenty of water, bromide of potassium is the best treatment. Being a drug which is slowly eliminated, it does not rapidly produce its effects, so combine it with tincture of digitalis or liquor arsenicalis when the tendency to produce acne is very decided, and try the combination of antipyrin and ammonium bromide in certain cases. The coal-tar series—phenacetin, antipyrin, or acetanilid—have not acted so well. For the status epilepticus, chloral in large doses is useful, and morphine sulphate, grain one-third, by the skin acts well. For controlling the violence, seclusion, with hyoscine hydrobromate, grain 1/120, is the best treatment. The greatest good of the greatest number must be studied, and an impulsive insane epileptic is a danger to friend and foe. Sometimes tincture of cannabis indica and bromide of potassium act well as calmatives. Epileptics are frequently large eaters, reduce their diet, especially in the matter of animal food; this is very important. An occasional purge of pulverized jalap and calomel does good; milder aperients should be used to overcome constipation. Fresh-air exercise is very desirable and should be insisted upon, such as employment in the garden or field. At night, if in an asylum, epileptics should sleep in a ward with a special night nurse to prevent suffocation during a fit, report the number of fits and generally look for and guard against accidental or intentional harm.

Vegetative rhinitis is described by R. Lulle (*Revue Hebdomadaire de Largyngologie, etc.*) as a chronic inflammation of the nasal mucous membrane, to be differentiated from primary lupus and chronic tuberculosis of the nose. It is characterized by a secretion of thick mucous, without crusts, ulcerations, ozena or epistaxis. There is nasal voice. The nasal fossæ show small indolent nodosities, which cause the surface of the mucous membrane to project and assume the form of yellowish granulations the size of a hemp grain. The microscope reveals firm connective tissue with leucocytes of granular aspect; there are no epitheliod or gaint cells. The treatment is local—ablation or curettage (anesthesia), followed by lactic acid, with which the surface is touched, to prevent recurrence.

HYPNOTISM, HYSTERIA AND PARANOIA.

BY WM. WORMLEY, M.D., PHILADELPHIA.

THERE are two great classes of medical conditions which are conspicuous in the public press: paranoiacs and people suffering from hysteria, frequently simulating paranoia in its character. These are the people who live on the borderland of crime; whose doings are apt to attract the attention of the police, or, if no worse, excite the surprise or pity of their friends.

Paranoiacs are adaptable people; in the periods of religious excitements, they are Messiahs, Elijahs, Virgin Marys and Jezebels. When political agitations arouse the land, they become kings, emperors, presidents and generals with equal facility. When great inventions startle the land, such as the recent introduction of electricity, they became inventors or are persecuted by various electrical contrivances. In fact, whatever is the topic of the time, the paranoiacs in the slang of the day are "it." Undoubtedly, they have in their time swayed nations, built or destroyed empires, saved or hanged statesmen. The border line between these patients and the true hysterical type is often very narrow and hard to define. An hysterical patient may have quite fixed delusions or even hallucinations, attacks of convulsions and such peculiar states as narcolesy and catalepsy.

It is in these two latter classes that the professional hypnotist looks for his best subjects. Here comes in the medico-legal question agitated from time to time by our yellow journals as to whether an innocent person may be made to commit a crime through the medium of hypnotism. Laboratory tests in this particular are not conclusive and actual proof is curiously wanting, yet when we realize what painful, apparently impossible feats a hypnotized subject can be made to do, it is hard to decide. Why should not an exceptionally susceptible subject be forced to commit an act which he would not perform in his normal state of mind? There is now in Philadelphia criminal courts a case of this sort where this is to be the defense; a boy fifteen years of age was caught stealing from his father large amounts of material which he gave to a comparatively unknown stranger. He claims that an unknown impulse forced him to do this and it has been proved that the boy received no especial benefit from his stealing, while there was no necessity for it on his part, his father being well-to-do, kind and careful of the boy's wants. The attorney for the defense has put in the plea of hypnotism and the case will be tried this fall.

No final answer can be given at this time to the question as to the nature of hypnotism. Undoubtedly, there are two schools: French, of course, Salpetriére and Nancy, which differ in their belief. The founder of the Paris school was the late Professor Charcot, whose experiments in hypnotism followed naturally his important study of hysteria; he concluded that hypnotism was a pathological entity, a disease, and closely related to hysteria; in the perfect subjects he made three phases of the hypnotic state, lethargy, catalepsy, and somnambulism, each distinct from the other, characterized by certain physical and psychic conditions, but easily changeable the one into the other; believing that all forms and degrees of this state are simply variations or varieties of this type, he called it "grand hypnotism," to correspond to the most severe typical form of hysteria. The founder of the school of Nancy, Dr. Leebeault, on the other hand, was a country practitioner near that city becoming interested in hypnotism; some thirty years ago he removed to Nancy, and succeeded in interesting Bernheim, then professor of medicine, Beaunis, professor of physiology and Liegois, professor in the law department of the Nancy faculty; these four became the head of the "School of Nancy." These authorities believe that the hypnotic state is physiological, being closely related to natural sleep, and, moreover, that it and all its manifestations are the result of "suggestion"; as to the nature of hypnotism, then, each school denies most of what the other affirms, but neither ventures to give a concise statement. Compared to and considered identical with "animal magnetism," it has been proved that there is no such thing as animal magnetism; there is a physiological generation of electricity in the body, for example, in the process of nerve-conduction, and electricity and magnetism are so intimately related that it might be supposed that the generation of an infinitesimal quantity of magnetism occurred at the same time. In some peculiarly susceptible persons with hysteria a magnet may seem to have some influence aside from suggestion, but the experiments are vague. "Animal magnetism" has an interesting history; the term was devised more than one hundred years ago by Mesmer to explain the peculiar results that he obtained by stroking certain persons with magnets; he learned from a Catholic priest that he could produce the same results by stroking with the hands and he discarded the magnets, but the term had been coined and still remains. The strange manifestations demonstrated by Mesmer are identical with those of hypnotism, and are not due to the power of magnets, apparatus or to any personal organism. This was proved as long ago as 1785 by a commission appointed by the King of France, of which Benjamin Franklin was a member. Therefore, we can say safely hypnotism, then, is not "animal magnetism." To explain the induction of hypnosis in one person by another is a problem; yet an observation of the phenomena occurring during hypnosis throws some light on the nature of its origin. As pointed out by Patrick, "the high degree of suggestibility in a deeply hypnotized subject depends not upon what is said to him nor how it is said, but upon the fact that the patient, or perhaps, I would better say, the mind of the patient, accepts it as true, the higher mental powers, the judgment, the critical faculty being in abeyance, or a state of inhibition. It makes no difference if the statement, or command, be conveyed in words, in writing, or by gesture, the result is the same. Occasionally mere sound of light or other sensory impression is sufficiently suggestive to the receptive mind of the subject to induce a train of hallucinations with appropriate and expressive postures. The degree of suggestibility in the hypnotic state varies. A patient may accept the suggestion that he cannot open his eyes, but not the one that he can feel nothing with his right hand, and he evinces in a lively way his perception of pain when you stick a pin into it. Another patient, however, accepts his suggestion and does not feel the pin-prick at all. To repeat, there are different degrees of susceptibility, of suggestibility, of passivity, call it what you will, during hypnosis, and that is just what we find in a study of the genesis of the state. Some subjects are susceptible and some are not, and the operator's mind, his 'will-power,' his 'animal magnetism,' is a most unimportant factor in the determining influences. The men who claim to succeed in the greatest percentage of cases (the followers of the school of Nancy) make no effort of the mind whatever, at least not a bit more than the mere effort of communication, while some operators hypnotize their patients by simply placing them in front of a revolving mirror or some such mechanical device and leaving them there till they go to sleep: patients have been hypnotized by a sudden bright light or loud sound without the knowledge or intervention of a second person. Indeed, this psychic state may be so favorable that no external influence whatever is to be discovered, and the patient falls spontaneously into the hypnotic state—auto-hypnotism, generally due to auto-suggestion."

The hypnotic patient believes, however, in a mysterious force which makes him susceptible, and the belief of the operator himself may have a similar power, simply because his consequent confidence and assurance conduces indirectly to the psychic state of the patient which makes him obedient and passive. In short, hypnotism is a subjective phenomenon, depending upon the nature and state of the subject, the person hypnotized, influenced by the place, the environment, the persons present, disturbing noises, the object for which hypnosis is induced, and with these naturally the personality and conduct of the hypnotizer; but we must not suppose that there is "a hypnotic power," that a peculiar, unique, and mysterious influence goes out from the person of the operator, the stronger, which takes charge of and influences the personality of the subject. Hypnotize a patient and he lies quietly, with eyes closed, breathing regularly, apparently unconscious, but rouses if loudly spoken to or pricked with a pin, while if left alone he continues to slumber for some time and finally awakes from what he considers to be a natural sleep. Under such circumstances, we are apt to incline with Bernheim, who succeeded in inducing such a hypnosis in eighty per cent. of his patients, that hypnotism is physiological and nearly related to sleep, but when we see severe hysterical convulsions caused by hypnotism or by the hypnotic attempt, when the patient awakes dazed, dizzy, uncomfortable, when we see by suggestion in the hypnotic state a blister produced by a cold key or coin, when we see induced an auto-hypnosis that can scarcely be distinguished from different phases of grave hysteria, the theories of the school of the Salpetrière that hypnotism is a disease and closely related to hysteria seem true.

What is the practical value of hypnotism? What proportions of patients can be hypnotized and, once hypnotized, how much good can be done? When is it indicated. When contra-indicated, may it be injurious in its immediate or remote effects, and how shall hypnosis be induced? The highest authorities differ markedly, but remember that results will depend to a considerable degree on circumstances, and the tact, judgment and diagnostic skill of the physician; as the mortality of amputation at the hip depends on the ability of the operator, the character of the disease or injury, the constitution of the patient, the surroundings, nursing, etc., so many elements enter into the determination of the practical value of hypnotism. Probably it is possible to hypnotize ten to twenty per cent. of patients; Bernheim claims to succeed in about ninety per cent. of his cases; but his conditions are exceptionally favorable, his reputation as a hypnotist is great and patients never doubted that he would succeed. These patients see others hypnotized every day, it is a part of the routine, and they take it as a matter of course, the same as any other medicine, without question, fear, curiosity, or amusement. The obedience and submission of the patients is absolute, and you will find that it is those accustomed to obey who make the best subjects. Moreover, they are largely French, and French people are ideal subjects. Charcot and his disciples believe that not over twenty per cent. of patients may be hypnotized, because the subjects must have hysteria or a hysterical tendency; here they are certainly wrong, but it is a fact that the majority, not all, of the best subjects are those who have or may have hysteria. When it comes to the discussion of what can be cured or relieved by hypnotism, the followers of the school of Nancy claim that it may be of greater or less utility in nearly every known disease—not necessarily as a curative agent, but as a palliative to relieve distressing symptoms. The school of Salpetrière teaches that it is of use only in hysteria and not always then. As to the claims of the school of Nancy, Bernheim has used hypnotism in the following cases, according to Patrick: Secondary syphilis and mild infection following premature delivery, 1 case; alcoholic multiple neuritis, 1; myelitis, 2; tuberculosis, 3; chronic gastritis, (dilatation of stomach), 2; chlorosis, 1; subacute bronchitis, 1; asthma and emphysema with chronic bronchitis, 1; rheumatism, 4; jaundice, 1; tumor of liver, 1; alcoholism, 1; mitral disease, 2; typhoid fever, 2; apoplexy (hemorrhage), 1; diabetes mellitus, 1; exophthalmic goitre, 1; hysteria, 5; epilepsy, 1.

In the school of Nancy, hypnotism is not used entirely with the idea of restoring pathological tissues, but to relieve symptoms; such as cough and vomiting in phthisis, pain in rheumatism, headache in typhoid fever, etc. Did it make these patients more comfortable, did it relieve their pains and headaches and make them sleep? It did not to any marked degree, according to Patrick, who spent some time there studying. In some of the hysterical cases the improvement was striking. If there is a combination of organic and functional trouble, entirely fortuitous, or organic disease it may be the exciting cause of hysteria in a previously healthy individual, for example, a woman has an abdominal tumor, which causes certain pains and other annoying symptoms; finally the effect of this on her mind, be the process conscious or subconscious, is to induce the appearance of numerous other pains and troubles which are purely functional, or a man has locomotor ataxia and consequently difficulty in standing and especially in getting across a crowded street promptly. This, not unnaturally, makes him anxious and timid, and presently we have grafted upon his spinal ataxia an uncertainty in station and locomotion, which is of purely mental origin, but quite as real as the other. A man suffers a severe contusion of the shoulder which is very painful and disables him for some time. Long after the integrity of the tissues is entirely restored he is very weak in the arm and cannot use it without pain—that is, a functional affection has been left over when all organic disease has ceased. In all such cases hypnotism may be of signal service in the diagnosis as well as treatment, removing all of the functional element. Hypnotize a subject and make him insensible to pin-pricks it does not prevent conduction of this irritation to the sensorium, but merely the recognition of it; the patient neglects or refuses to recognize the pain. If the patient is very susceptible to suggestion he will fail to recognize very painful impressions, such as the extraction of a tooth, and so in the most profound hypnosis surgical operations may be performed without pain. As a matter of fact, however, subjects as good as this are rare, and the field of hypnotism in practical surgery has been found to be very limited. As we may at times induce anesthesia in surgical cases so may we also in medical cases. The pains of locomotor ataxia, rheumatism, neuralgia, etc., may be relieved, but the relief is, as a rule, not enduring, and in the more severe cases, very good subjects are necessary to success. It is quite certain that in the exceptionally good cases the bowels may be regulated, appetite increased, cough and especially insomnia alleviated. There is no doubt about the efficacy of hypnotism in that omnivagant disease hysteria. There is scarcely a symptom in all its multifarious manifestations that has not been removed by suggestion during a hypnosis, such as pain and anesthesia paralysis, spasms, and contracture, Raynaud's disease, affection of the digestive and genito-urinary systems, erytheomelalgia, polyuria, anuria, convulsions and even affections of the special senses.

It is the common belief that hypnotism has a deleterious effect upon the individual; is this true? As to the immediate effects, in hysterical subjects, but not rarely, it occasions an hysterical outbreak of one form or another, and this is independent of method used. The attacks thus produced are ordinarily of short duration and easily controlled, but they are occasionally very troublesome and refractory to treatment. Following the hypnosis patients often, indeed as a rule, complain of some dizziness or somnolence, or a "queer feeling" in the head, and this may be sufficient to make even good subjects very loath to be hypnotized. These unpleasant feelings may, however, be disregarded if we are doing our patients good, as may also the rare difficulty of being unable to awaken the patient. This does no particular harm, as he will awaken spontaneously after a time if left alone. All these untoward effects may ordinarily be prevented or reduced to a minimum by suggestion during the hypnosis. As to the remote effects it is not so easy to speak positively, for here again authorities differ widely, as widely as positive affirmation and negation. It would seem to depend largely upon circumstances. If the patient comes to feel that he has no will-power of his own, that he is the mere puppet of another, and thus loses his self-reliance and feeling of personal responsibility, the result is certainly deplorable; worse, if he is convinced that the operator has some "mysterious power" over him, body and mind, and can compel him to anythng. On the other hand, if we use hypnotism in a simple and rational way, as we do pills, powders and potions, in properly selected cases, abstain from experimentation and all airs of mystery and power—use it, in other words, with common sense and reason—I believe it may at times be used, not only without harm, but even, as an adjunct, to strengthen an already tottering will-power and to restore nervous balance. But again let me call to mind that it is sometimes this very faith in your "power," this implicit obedience and renunciation of self, this belief in a mysterious influence, whch makes your patient a good subject, so that we find we have travelled in a circle and have found one of the practical limitations of hypnotism.

There are four principal methods of inducing hypnosis: causing the patient to look steadily at a revolving mirror or colored glass disks, causing him to regard fixedly some object (preferably a bright one) held about eight inches in front of and five inches above the eyes, stroking or passes, and simple suggestion. The first is not largely used and has few advantages. With the second method suggestion is generally combined, while in using the third method, you sit facing the patient, begin by stroking with both hands the forehead from the middle line to the temples, then passing from the forehead down the sides of the face and neck, and finally a long stroke along the arms to the finger-tips the procedure occupying two or five or six minutes. At the last it is customary to add suggestion. The school of Nancy teaches that suggestion is the key-note of hypnotism; that all methods are only different means of suggestion, and that hypnosis is impossible without it. They consequently use suggestion only, without accessories.

To hypnotize a case, Patrick suggests the following procedure: I place my hand on her forehead, ask her to look at me, to keep her attention, and say quietly but positively, "Now you are going to go to sleep. Your head is beginning to feel dull and heavy. Your eyes are getting tired, the eyelids are heavy. You're getting very sleepy, duller and duller, eyelids are heavier, your eyes are closing, closing; now you are going, your eyes arec losed and you are sound asleep." As I finish I pass my hand down and close the eyes. Then I continue, "Now you're asleep, deep asleep, your eyes are closed and you can't open them. Sound asleep, deep sleep, deeper yet. Now you are sound asleep, your eyes are closed, and you can't open them. You could not possibly to open them if you tried ever so hard. Try to open your eyes. You can't open them, not a bit. Try harder, harder yet." As you see, she apparently tries to open her eyes and cannot. I raise her arm in the air and say, "Your arm is stiff just like a bar of iron and you cannot bend it," and you see she is unable to do so. I stroke it and say, "It is getting numb, all the feeling is going with it, nothing at all," and she apparently feels nothing of this pin as I thrust it through a fold of the skin. To give an example of post-hypnotic suggestion I tell her that she cannot pull her arm down until I give her leave; that when I awake her her arm will still remain above her head and that it will stay there until I tell her to put it down. I say further, "When I count three, you will wake up feeling bright and fresh, with no headache, no dizziness, no queer feeling in your head but perfectly clear and well, but you will not be able to put your arm down until I tell you." I count three, she awakes as if from a sleep, but her arm remains in the air, and try as she will she cannot put it down until I say, "That's all right, now put it down." This man I hypnotize by the method of fixation. I hold a small, bright object, which happens to be a palpebral retractor, in a position that makes him converge and look upward. After a few moments I notice the pupils dilate somewhat, I make a few suggestions as in the first case, finally close the eyes and continue the suggestions as before. In this case, howeer, I do not succeed in inducing a complete analgesia; he winces when I thrust a pin deeply into his arm.

It is unfortunate that hypnotism in America has fallen into the hands of the fakirs and the "professors." By clever art they mix the genuine with the false in such a way as to give the impression to the intelligent part of the public that hypnotism is a "fake" or a plaything, whereas, in proper care it is an excellent therapeutic measure.

RECENT ADVANCES IN THE STUDY OF RHEUMATISM.

BY J. LEE FOWLER, M.D.

PART I.

THE nature of articular lesions, which run a chronic course, has most important bearings upon their treatment, for example: there is a group of cases commonly met with among women in early or middle life, in which the disease is characterized by the frequent implication of the small joints of the hands and feet; by the symmetrical distribution of the lesions, and by the conspicuous degree of accompanying secondary muscular atrophy. The large joints suffer as well as the small, and those of the spinal column and the temporo-maxillary articulations are implicated in a large proportion of the cases. In another group of cases, the majority of the sufferers are also females; here the articular lesions tend to be symmetrically distributed, and the small joints of the hands are usually attacked; the terminal joints of the fingers are especially exposed to attack, and with peculiar frequency the carpometacarpal joints of the thumbs are among the earliest articulations to be involved. Muscular atrophy is less conspicuous, and if it should be eventually established that the conditions described really constitute two distinct diseases, the term rheumatoid arthritis should be used to designate the former, and the term osteoarthritis to indicate the latter malady, in which the bony changes are early and conspicuous. The articular changes in rheumatoid arthritis are so obviously progressive that one cannot regard the condition as one of simple damage to the joints left behind from a rheumatic attack; the rheumatoid changes may develop upon the top of a rheumatic attack, owing to secondary infection. In the great majority of cases, although there may be short prodromal periods of pain and stiffness without obvious swelling, rheumatoid arthritis has its characteristic features from the start and is not preceded by any attack which can be, with good reason, regarded as rheumatic. Nor does one expect the visceral lesions of acute rheumatism, and especially those on the cardiac valves, to be developed in its course. If there is any relationship between osteo-arthritis and gout, it is with nodular or osteophytic form; but no single pathological theory will suffice to cover all cases. In the treatment of these cases, any debilitating influences that is constantly present should be relieved; if any unhealthy condition of the mouth or gums is present, attend to it; the diet should be as nutritious as the condition of the patient allows, and meat should by no means be restricted. Stimulants, in some cases, appear to be beneficial; to keep up the patient's strength, tonic drugs, such as cod-liver oil, iron, and arsenic should be used, always provided that the drugs do not upset the digestion. Massage and passive movement of the joints themselves do more harm than good. Osler approves of the division of the chronic lesions of the joints, suggested by Garrod: (1) An infectious group, comprising the spindle form in adults and the variety in children with enlarged spleen and enlarged lymph glands, and (2) the dystrophic variety, in which there were osteophytes, etc. Recently, an attempt has been made to separate as distinct maladies varieties of arthritis deformans characterized by rigidity of the spine without involvement of the joints of the limbs; and with ankyosis of the vertebrae plus arthritis of the hips and shoulders, but they were only varieties of arthritis deformans with special localization in the spine, and not separate diseases. Arm-strong believes that in all cases of arthritis there is more or less interference with the nerve nutrition of the affected joint or joints. In many cases of the rheumatic or gouty forms of arthritis the trophic factor is present in a small degree only, and these cases are readily amenable to well-directed treatment. When the trophic factor predominates, the cases prove much more refractory. Cave said that since we know so little of the infective agent we can do little to destroy it by direct and specific remedies. But in every case, and especially in the early stages, search for a possible source of infection; the cavities of the nose and ear and their accessory sinuses, the buccal cavity, the whole extent of the alimentary canal and its diverticula, the skin, the respiratory tract, and the genital and urinary organs, should be examined carefully.

In acute rheumatic fever in children there is less liability to joint involvement than in adults and it may be altogether absent, while sometimes the only evidence of a joint implication is the subjective symptoms of pain complained of by the child, the so-called "growing pains." Should the joint be involved the anatomic changes are not so severe as in adults, there being less exudation and fewer structural changes of the joint and the surrounding tissues and, therfore, less pyrexia. On the other hand, strange to say, there is in childhood a greater tendency to metastasis of the micro-organism and their toxins leading to an involvement of other tissues and serous membranes and even the skin, for we have as a frequent accompaniment of the diseased joints, a torticollis, an erythema nodosum, a purpura rheumatica, a chorea, an endocarditis, a pericarditis, a myocarditis or a formation of tendinous nodules. Endocarditis is the complication most frequently present in childhood, while peptonuria is a frequent condition found in acute rheumatic fever in children, probably caused by an abundant destruction of the leucocytes with an absorption of their peptones. Rheumatic fever is very rare in children under 3 years of age, although there are some authentic cases reported. It is well to remember that the majority of cases of joint disease in children under one year of age are really manifestations of infantile scurvy. The indications for the treatment of this disease are: (1) To combat the poison. (2) To alleviate the symptoms. (3) To prevent involvement of the heart, and to prevent recurrences. The best method of counteracting the poison is by the salicylates. In acute rheumatic fever, administer the salicylates prophylactically. After the acute local and constitutional symptoms have subsided and the patient is to all intents and purposes apparently cured, the administration of the salicylates is continued for some time. Thirty to eighty per cent. of cases of acute rheumatism are preceded by an angina. That both conditions have many etiologic points in common—season of the year, cold, wet, fatigue, depression, vitiated air, etc. The connection of angina and rheumatism, though undoubted in a number of cases, is not yet clearly established. The tonsils may be the points of entry of the rheumatic virus, and this even although the naked eye appearance of the throat gives no indication of its being affected. The particular affection of the throat which is associated with rheumatism is not yet established. Apparently it is not peritonsillar abscess (quinsy). Peritonsillar inflammation does not appear to be arrested by the antirheumatic remedies. Many cases of parenchymatous and lacunar tonsillitis, on the other hand, are considerably benefited by such treatment. The question requires further research in two direction: one in differentiating the various forms of angina and determining the one which is associated with rheumatism; the other to discover the true nature of rheumatism itself. Thomson points out the frequent inflammatory conditions of the naso- and oropharynx in their association with rheumatism and the condition of granular phatyngitis with arthritism. Operations on the nose have been followed by angina; and this in turn by an attack of rheumatism. In many cases also there may occur an acute inflammation in the cricoarytenoid joint. This may be mistaken for paralysis of the recurrent laryngeal nerve, but may be differentiated by the following signs: (1) dyspepsia; (2) painful cough; (3) occasional tumefaction over the arytenoid; (4) sharp pain on pressure along the posterior border of the thyroid cartilage; (5) the healthy arytenoid is not tilted forward into the affected one, and the healthy cord does not during adduction pass across the median line.

Newsholme, in a thorough study of the statistics of rheumatic fever, concludes that these statistics show two kinds of epidemics, which he terms "explosive" and "protracted." The explosive epidemics terminate in one, or at the utmost three years, while the protracted epidemics are observed chiefly in large centres of population, or in studying the statistics of an entire country, representing the fusion of two or more explosive epidemics which do not exactly coincide with each other in point of time. He finds there are certain favorite years for epidemics; thus, in England, these are 1855-6, 1859, 1864-5, 1868-71, 1874-6, 1884-5, 1888, and 1893, while in other countries the same years are frequently characterized by epidemics, but in some instances there is an anticipation of or lagging behind the favorite years for England. While there is no regular periodicity in the epidemic years, epidemics are apt to recur at intervals of 3, 4 or 6 years. There is in many instances a regular alternation between the explosive and the protracted epidemics, two of the shorter and smaller epidemics commonly occurring before the return of an epidemic of thep rotracted variety. The occurrence of definite epidemics is valuable confirmatory evidence that rheumatic fever partakes of an infectious character. by its mode of onset, the frequent occurrence of preliminary sore throat, and the course of the fever. The apparent absence of infection from person to person is explicable on the ground that the contagion is buried deep in the infected joints. The specific action of salicin is also comparable to that of quinin in malaria and mercury in syphilis. There is important evidence that the infection of rheumatic fever may cling about certain houses in a manner strikingly like that of tuberculosis and diphtheria. The susceptible population is not attacked at the same time, which may be explained upon the ground of the gradual convection from place to place. The disease is probably ubiquitous. Four out of every thousand persons are annually attacked by rheumatic fever; it being essentially an urban rather than a rural disease. Newsholme concludes that the disease is essentially a soil disease, due to a saprophytic soil organism which is drowned out in wet years, and multiplies rapidly in dry years. The inoculation may be brought about by domestic vermin, or the housefly may convey it to milk and other foods. Rheumatic fever being pre-eminently a disease of childhood it becomes essential that the pathology of the disease must explain the manifestations which are met with in the young. The cardinal lesions, such as endo- and pericarditis and nodule formation, are strikingly comparable to each other; for each shows a destructive and reparative process, in none does suppuration occur. The changes are suggestive of a specific cause and analogous to the metastasis of pyogenic infections. The lesions found are characterized in the human tissues by great local resistance and a tendency to recover. Poynton mentions Cullen's theory that the condition is a direct result of cold upon the joints—now untenable—and Mitchell's nervous theory. Poynton believes that the nervous theory exaggerates the importance of the influence of the nervous system upon other organs of the body and there is no proof that carditis, pleurisy and subcutaneous nodules can result from lesions of the nervous system. The toxemic theory implies that the cause of the disease is some poison circulating in the blood. It has led to three distinct conceptions: (1) the chemical theory, (2) the neurochemical, and (3) the infectious theory. The chemical theory explains the causation of the disease on the ground that lactic acid is the offending material; other authorities claim that uric acid is responsible. To both of these theories Poynton advances the objection that the proof that these acids are in excess in the blood tissues or the sweat-secretion of rheumatic fever is insufficient, and we are not certain that the typical lesions may be produced by either or both of these factors. It is true, beyond question, however, that Richardson, in 1853, and other observers after him, obtained the clinical picture of rheumatism by the injection of a 10 per cent. solution of lactic acid. The clinical picture of rheumatism favors greatly the infectious theory. This is well borne out by the pathology of the disease and the researches which tend to prove its epidemiology. While there are certain features of resemblance between malaria and rheumatic fever, the local inflammation of the joints and viscera of rheumatism are unlike malaria and the blood examinations are totally dissimilar. The other important views on the nature of the infection are respectively: (1) that there is no specific micro-organism, but the disease is a form of septicemia which owes its origin to staphylococcal or sterptococcal infection, (2) that the infection is necessarily symbiotic, (3) that the micro-organism is a specific bacillus, (4) that the micro-organism is a specific diplococcus. The first two of these views have hosts of supporters and in our present state of bacteriological knowledge the question remains an open one. The symbiotic nature of the infection has been advanced because cocci have been so frequently found in rheumatic lesions which are not specific. A specific anerobic bacillus has been isolated by Achalme and others: A diplococcus hasalso been isolated byseveral observers from the blood, urine and tonsils in patients ill of rheumatic fever and in the postmortem lesions of the condition. By a series of carefully conducted experiments they have been able to produce by intravenous, inoculation into rabbits, polyarthritis, valvuitis, pericarditis, chorea and nodules. They have been found in these lesions in rabbits and in both rabbits and man circulate in the blood during an attack of pericarditis. The authors report of the great difficulty of recognition of the organisms, apart from their small size and the question of technic; it is on account of the fact that the disease is rarely fatal early and the organisms are rapidly destroyed in these lesions. Poynton suggests a possible explanation of the rheumatic recurrences by the persistence of a single coccal form which survives after the disappearance of the diplococcus. In a considerable number of cases of rheumatic fever the poison enters the system through the tonsils, the inflamation of which may be the earliest indication of the systemic infection. The second is that certain inflammations of the tonsil occur with greater frequency in patients with arthritis diathesis. There are two varieties of rheumatic sore throat—faucial erythema and tonsillitis proper. Faucial erythema is more common in adults; rheumatic tonsillitis in children, in whom it usually assumes the follicular type. Quinsy being more common in older subjects. Faucial erythema is an initial manifestation of acute rheumatism. Tonsillitis may be actual primary lesion. We know that endocarditis has followed a non-scarlatinal tonsillitis unaccompanied by joint pains. In other cases the tonsillitis has immediately preceded an attack of arthritis or of chorea. Tonsillitis may also occur during an attack as well as at the beginning. We can prove no causative relation between peritonsillar abscess and rheumatism.

Menzer reports his work, which consisted in the discovery of streptococci in the joint exudate in 2 cases of rheumatism, and in the tonsils in 3 cases: to investigate the tonsils he exercised a portion and made bacteriological examinations of the cut surface, thus looking only for bacteria that were present in the substance of the tonsil. The bacteria found produced inflammation of and exudation into the joints in animals and in some cases caused endocardial changes. The streptococcus discovered by Meyer differed in some ways from that found by Wassermann, and in the one which Menzer reports also showed some variations from either of these. The conclusions which Menzer reaches are, that the discovery of streptococci in rheumatism is by no means new, but this does not mean that it is entirely without importance. It is true that one can find streptococci and staphylococci frequently in almost any infectious disease, and particularly in the mouth and throat; in the latter places even under normal circumstances. The importance of certain streptococci is, however, that they tend to cause joint change in animals. He considers it a question whether we shall ultimately find streptococci to be the sole cause of rheumatism; also whether the streptococci which are at times found on the normal tonsils will prove always to lack the peculiarity of producing joint changes in animals. He considers it impossible as yet to make any definite statements concerning the bacteriology of rheumatism. A number of forms of bacteria have been discovered, chiefly streptococci, straphylocci, and pneumococci, and some of these have the power of producing joint changes. It is possible that some one of these changes may be shown to be the actual and constant cause of typical rheumatism, though this is certainly questionable, considering the close relation of typical acute rheumatism to rheumatoid and pyemic infections.

Food-Value of Potatoes and Chestnuts.—The composition of the raw chestnut has been found to be as follows:

Water, 53.640%; proteid, 3.710%; mineral matter, .870%; fat, 2.160%; starch, 31.790%; sugar and gum, 6.100%; fiber, 1.730%. The raw potato is:

Water, 76.700%; proteid, 1.200%; mineral matter, .900%; fat, .100%; starch, 19.100%; sugar and gum, 1.400%; fiber, .600%.

A comparative study of the above analyses will prove interesting and useful, the advantage as a nutrient being with the chestnut. Both articles should be roasted rather than boiled.

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A man's growth is seen in the successive choirs of his friends.—EMERSON.

RECENT ADVANCES IN CARDIAC THERAPY.

ACCIDENTAL cardiac murmurs is a term devised by Sahli, by which he means the presence of a systolic murmur without other clinical signs not justifying the assumption of a valvular lesion. Such murmurs have been heard in persons apparently in perfect health, but particularly in anemia, fever, and jaundice, where the postmortem examination positively excluded any valvular lesion; hence, Sahli calls them "accidental," and no importance is attached to these murmurs, for there is no disturbance of the valvular mechanism. Sahli distinguishes these murmurs from so-called functional murmurs, which are due to a relative insufficiency of the valves, caused either by anemia or by any other affection which damages the cardiac muscle, and leads to dilatation of the ventricles, and, therefore, to more or less disturbance of the valvular mechanism. Functional murmurs are to be treated just as the murmurs due to anatomical valvular lesions, but accidental murmurs offer no indications for therapeutic action. The cause of these purely accidental murmurs is still more or less hypothetical, but it seems that they occur wherever the conditions are favorable to an abnormally rapid blood-flow, and the physical nature of the blood in anemia would seem to have a share in their production. While the occurrence of systolic accidental murmurs is generally accepted, the question of the existence of such murmurs during diastole has not yet been settled; Sahli believes that such diastolic murmurs do not exist.

Sansom believes that practically all cases of heart disease in individuals below 35 years of age are rheumatic in origin; rheumatism of the endocardium may even occur during intrauterine life. He has described a case in which one of the fetal heart-sounds was discovered to be replaced by a harsh murmur; at the child's death, shortly after birth, there were found great hypertrophy of the right chambers of the heart with vegetative endocarditis of the tricuspid valves. Sansom believes that practically all fetal endocarditis is rheumatic, while in early childhood the rheumatic process affects the myocardium and pericardium as well as the endocardium. He states that digitalis may be properly administered if there is no febrile disturbance and no evidence of acute inflammation; but if these are present, it often does harm; and if it does not do good after two or three days, it should be dropped. Locally, he prefers the application of an ice-bag. Muscular exercise is commonly too indiscriminately used, and should be preceded by a period of absolute rest if the heart is much enlarged. Sansom especially insists upon the importance of the nervous element in cardiac disease, with the frequent employment over a long period, of a continuous galvanic current.

Diagnosis in cases of cardiac disease without a murmur is very difficult; particularly is this true in disease of the aortic valves, or of the aorta just above the valves. The diagnosis of a dilated heart or of cardiac weakness is comparatively simple, for in these cases we have direct evidence of the failure of the cardiac muscle, and the presence or absence of a murmur signifies but little. Well marked stenosis of the mitral orifice or of the aortic orifice, though often unattended by its characteristic murmur, is usually recognized without much difficulty, but there is a class of cases in which there is either atheroma or thickening of the aortic valves with atheroma of the aorta, or there is atheroma of the aorta involving the orifices of the coronary arteries, and without involvement of the aortic valves, which are not attended by a murmur. While the difficulty of the diagnosis of some of these cases is very great, still they should be recognized, if possible, for the prognosis is of the utmost gravity. Most of these cases have been business men, of middle age, who have been in active business for many years, and who have worried over their business, complaining for a considerable length of time of "dyspepsia," then they have painful sensations about the heart, and finally dyspnea on exertion. They are liable to sudden death, usually with the symptoms of angina pectoris. In some cases the diagnosis of this form of cardiac disease is comparatively easy; in others it is very difficult. The most significant physical signs of this condition are enlargement of the heart and an absence of the aortic valve sound, or a feeble aortic valve sound, while another source of error is the estimation of the size of the heart, for many hearts have been regarded as diseased which were absolutely healthy simply because the apex was farther from the median line than is commonly the case, or because percussion revealed a larger area of cardiac dullness. The left border of the heart is, in the healthy individual, much farther to the left than is usually supposed; it is commonly regarded as being about a quarter of an inch to the right of the left male nipple, and it is believed that much increase of the area of dullness beyond that point indicates enlargement of the heart, yet the line of the left border of the heart usually runs through the areola of the male nipple, and often to the left of the areola of the nipple; palpation of the apex beat is the most reliable method of estimating moderate increase in the size of the heart, but even here the opportunities for error are numerous. The relation of the apex beat to the nipple line is not a safe guide, for the nipple varies in its position in different individuals; and in the healthy adult heart, the apex beat may sometimes be found to the left of the nipple line. Estimate the distance of the apex beat to the left of the mid-sternal line; such apex beats may be found in the healthy male adults, in the erect position, from two inches and a quarter to four inches and a quarter to the left of the mid-sternal line, depending upon the size of the individual, and the degree of development of the chest. In many cases the question as to whether a heart is to be regarded as enlarged or not is far from a simple problem, and its solution must be sought through a process of rational deduction. Cases of acute dilatation of the heart without endocarditis are those which are most liable to lead one into error, for here the symptoms of interference of the functions of the stomach and liver may assume such prominence as to entirely overshadow the breathlessness and palpitation, which would otherwise direct our attention at once to the heart, and even though the heart be examined, the absence of a murmur, and the absence of a rheumatic history, may be deceptive. Cardiac disease may be masked by acute disease of the lungs, or by general diseases. For example, a bronchitis may mask the murmur of valvular disease of the heart. Malignant endocarditis is particularly liable to be overlooked. Here the fever and erratic chills are liable to be referred to the lungs if there be evidence of disease of the lungs, or the disease has been mistaken for malarial poisoning.

Oertel's method is limited to cases of heart disease in which compensation has not been lost, but Schott's method is applicable to a greater variety of cases, and now the treatment can be carried out in this country by artificially prepared baths and the introduction of proper gymnastics. All cases of chronic heart disease, except aneurism of the heart, or large vessels, and advanced general arteriosclerosis, are open to treatment, where valvular disease forms no contra-indication to its employment, for most striking restoration of compensation has been obtained in cases of the utmost gravity.

An International Hygienic Exhibit is planned to be made a part of the general exhibit in Milan, in 1906. On the invitation of the Italian General Health Department, many countries will assist in the display, which will have for its object the presentation, in a practical manner to the public, of the advances made in the field of sanitation during recent years.

ORGANIZED MEDICAL RESEARCH. HOSPITAL SERVICES.

THE St. Louis *Medical Review,* in a recent issue, laments the paucity of original scientific work in that city, and ascribes it largely to the lack of large and well-controlled hospital services, with organized corps of internes and pathologists. It speaks with particular regret of the fact that there is not a single hospital which does not throw its ward service wide open to any man who sends to it a patient able to pay from five to ten dollars a week.

We agree most heartily with some of the points made by this editor and disagree equally heartily with certain others. First of all, it must be admitted that an autocracy is the ideal form of government for a nation, society, municipality, school, hospital or anything else, when there is need of a reform and of haste in the good work, and when the autocrat is of the right kind. But experience teaches that the system which establishes an autocrat, by its very nature, fails to guarantee that the autocrat is of the right kind. Hospital autocracy has been well established in America, and while it has produced many able men and many important achievements, it is a matter of simple history that the fullest developments of medical science, and, indeed, the best attainments of autocracy itself, have been due to the extension of opportunities to a larger number of investigators.

At present, the hospital work of practically all large cities is divided among a large number of comparatively small hospitals. Large hospitals also exist, but they are, in the main, survivals of the old days when one hospital was thought to be enough for a large population, and, in almost no instance, have they grown commensurately with the population. With more or less sincerity, the plea is constantly being made for a return to the control of a vast amount of clinical material by one man. But the inevitable answer to this plea is a negative. In the surviving municipal hospitals, the division of labor is absolutely essential, and the men who divide the labor insist upon the maximum of individual authority. Indeed, in many if not the majority of cases, the various services, even in the same branch are practically independent of any central authority, although certain courtesies may be extended to the senior attendant in each. As to the men who cannot get into the larger hospitals at all, they are combining into convenient units for the management of other hospitals, and, the smaller the hospital, the more dependent it is upon the good will of the individual practitioner, and it cannot secure this good will except by opening its doors to the latter, not only for cases that can pay for private rooms or ward lodging and nursing, but for cases depending entirely upon public charity.

It is not our present purpose to consider the ethics of the relation of the medical profession to the hospital. Rightly or wrongly, wisely or unwisely, the principle has been declared that a hospital supported by the people, either by taxation or by public unofficial charity, must concede to every patient the right of choice of a physician, and to every physician, in good standing, the right to have his patients cared for. Personal graft cannot endure in this country, whether the graft is the direct filching of money, the indirect bearing of necessary expenses, the advertisement of one's private business, or even the gratification of ambition, and whether the motive behind the ambition is selfish or ultimately altruistic.

There are undoubtedly combinations of circumstances in which medical autocracy is desirable, and in which divided opportunities for clinical and scientific research are frittered away. Yet, even when nothing tangible results from a small hospital service, and when we are disposed to wish that many such small services might be combined into one large one we must not forget that so many men are acquiring experience and ability, instead of one. Moreover, the amount that any one man can accomplish by his own brain, and hands, and eyes, and ears, in medical research, is not great. It is rather the scientific imagination, executive ability and general knowledge that count.

If we balance the system of autocracy against that of individual study, we see that, on the one hand we have greater potential execution, on the other a greater probability of merit and greater incentive to research. The bulk of clinicial material, being the same in the aggregate, it is better adapted to systematic study with any one object in view in the former case, more apt to teach a variety of useful lessons in the latter. The former method gives greater scope for the true genius, but also allows greater waste of opportunity by the man of mere influence, or by the superannuated, the latter method tends to develop the average skill and knowledge of the profession, and, hence, leads to a more symmetric and diffused growth.

The advantages of autocracy need not be sacrificed by democracy, and applying the figure to hospital work, it is apparent that voluntary co-operation and submission to mutual suggestion can accomplish quite as much as the work of subordinates under one head. A union of smaller hospitals to secure expert pathologic examinations is needed in many cities, and a provision by endowment for purely scientific investigation is something for which every physician should lend his influence. Even without such endowment it is possible to extend mutual courtesies in hospital services in such a way as to afford ample material for any particular investigation, and the various pathologic examinations can best be performed by a union of interests, and effort.

Vaccination against variola was practiced, it seems, more than 1,000 year B. C., by taking the pustule of the cow's teat or from the arm of a human being, placing it upon the point of a lancet and introducing it into the arm.

HOSPITALS AND DISPENSARIES.

THIS perennial question is up again; and there are again some worthy and trustful souls who expect to adjust it. Theirs will be a Sisyphus-task, if there ever was one. We, for our part, haven't the remotest conviction that, Hamlet-like, we are born to set this business right. However, it were pertinent to set forth some observations concerning this really very grave question.

Whenever one discusses this problem of the hospitals and dispensaries he must first meet an interrogatory akin to that which the man of pro-slavery proclivities was wont to put in the confident expectation that it would make further discussion impossible: "Would you have your daughter marry a nigger?" Of course you wouldn't; wherefore it is conclusively proven that the "nigger" should remain enslaved. With like relevance the question: "Can you do without hospitals and dispensaries?" is supposed in the same confident manner to paralyze one's faculties for argument. The answer to this (if one have recovered from the blow sufficiently to give it) is easy of comprehension by the dullest intellect—if it be but receptive. Yes; we must have hospitals, and we must have dispensaries. We are always going to have among us some really deserving poor, who should and must be succoured; and we must have institutions in which the elders shall teach younger men the practice of healing the sick. The matter is fundamentally one of proportion (as is the case with practically all human situations); it lies not at an extreme of the pendulum, but between the extremes. Moderation (the most important word in the whole dictionary) is the word best fitting here. Now, for specific details:

Dr. Gay, in a symposium on The Abuse of Medical Charity in the *Boston Medical and Surgical Journal* (March 6, '05), states: "There are about 75 hospitals and dispensaries in this city (Boston) for the care of the injured and the ailing, and apparently more to come in the near future. Some of them are private and do no charity work; others furnish both free and paid services, while the remainder are devoted entirely to the care of the poor and destitute, who are unable to pay for the services they need. (Patients paying from ten to twenty-five cents for a visit or a prescription are properly charity patients. This custom of charging a small fee is quite common, and becoming more so. Some dispensaries are thus self-supporting.) It is of public record that upward of 300,000 received practically free treatment in Boston last year (1903), a number equal to about one-half the entire population of the city."

"In Philadelphia," continues Dr. Gay, "with its sixty hospitals and as many dispensaries, more than one-fifth of the population are annually treated as charity patients, while in New York, which has about ninety hospitals and nearly as many dispensaries, one-fourth of the people receive practically free treatment every year."

We recall that in his paper read on becoming President of the New York County Medical Society, Dr. Landon Carter Gray, of most honorable and heart-endearing memory, stated that in the lesser New York, which was then made up of Manhattan and Bronx Boroughs, in a population in 1896 of 1,800,000, there were upon the books of its hospitals and dispensaries more than 793,000 names of those who had been treated in these institutions. Since that time a law has been passed regulating them; with what result the reader may judge from Dr. Gray's statement concerning this city and the following: A single institution among the 180 odd cited by him (and one by no means unique in its energy) boasted recently that it had in one year treated more than 100,000 cases in its dispensary. And its president most roundly scolded the public because the latter would not contribute with desired profusion to its support. From our viewpoint this was, to the contrary, an indication (of which there are none too many) that the public has not gone daft quite beyond reclamation. Another of these institutions is conducted under Jewish auspices —on which account one is amazed by the lack of perception evinced. For of all work of charity, that of this people seems generally to be built upon sane lines. This hospital has been erected upon perhaps the most fashionable thoroughfare in the city, among residences to whose owners a million would look as thirty cents does to an ordinary mortal. This hospital is magnificent and palatial in it appointments—no other terms are adequate. Surely the effect of all this upon the poor patient's psychism must prove disastrous.

And here, it seems to us, lies the really essential point in the whole situation. While the bodies of these patients are being treated their souls are being debauched. And instead of helping the poor by such means as these, there must inevitably, in the course of things, come to pass increased wretchedness, increased poverty, increased disease, pauperism finally. Is this statement going too far? Is it unwarranted? Let us see; one may in the dispensary easily trace the steps: First there is the acted lie in visiting the dispensary under false pretences. The perfunctory question is asked by the clerk —Are you too poor to pay a doctor? The answer is "yes," easy to make by any one bent on getting something for nothing. For such are the labyrinthine processes of the human mind that one may, if he conclude to cast self-respect to the winds, may, if it serve his purpose, satisfy even himself he is poor, no matter what are the condition of his affairs. The circumstances of the case are not investigated in the manner that Charity Organization Societies investigate the cases of the poor referred to them. Why aren't they? Don't ask us.

Well, then, the patient having comfortably lied himself into the consultation room, gets treated. He has got what he came for—something for nothing. (Of course you wouldn't, as a physician, admit that the dime he may have paid on passing the clerk, is a "something" equivalent to the consultation and prescription.) Here then is fostered and stimulated the habit of getting things without effort. Then comes contempt of effort as being unnecessary to procure what is desired; and upon this comes lapse into idleness and shiftlessness. Here then is developed the fatal position that the poor fellow is entitled to be taken care of by the well-to-do; doesn't the world owe him a living? etc. Then must certainly follow, according to natural laws, which should be obvious to common sense (you'll find them set forth in the Gospels) poverty, consequent misery, discontent, disease, hatred of class, social chaos, anarchy.

Now this condition of things with which our superabundant hospitals and dispensaries are linked, could be eliminated, so far as these factors are concerned, in two days. How? By the action of medical men. Are they going to take it? We think not. Why? Doesn't every medical man know? Is there any reason why we should take up the reader's valuable time or our equally valuable space in a discussion of this phase of the subject?

SUGGESTION.

THIS present day equivalent of hypnotism is not comprehended and cultivated by the practitioner nearly as much as it ought to be. It is, or should be, a most valuable part of one's armamentarium. It is the only basis of any success which the mind healer, the Christian Scientist and all the rest of them achieve. The physician should have put himself in the state of mind of the wise clergyman who was a number of years ago in charge of the Judson Memorial Church in this city. At that time the Casino theatre had just begun its career as a disseminator of vice and a debaucher of the souls of the city's youth (in the opinion of the pious; this writer is bound to note, however, that he has a number of times visited this attractive theatre without injury to his self-resepct or without loss of the regard of many good people). Well, anyway, the topmost pinnacle on the roof of this Casino is surmounted by a huge lyre brilliantly lighted up at night, so that it to to be seen from the housetops throughout the city. The wise clergyman to whom we have referred saw this lyre (from a housetop, of course), observed at once, "Why should the devil have all the good ideas?" and straightway had a beautifully illuminated cross placed on the top of his church steeple, where it is now nightly a majestic beacon which is to be seen from many miles around.

Why, in the same way, should the ethical physician leave to the quack a really very valuable therapeutic adjunct? Suggestion is "the insinuation of a belief or impulse into the mind of the subject by any means, as by words or gestures, usually by emphatic declaration." (Century Dictionary.) The art in suggestion lies in the ability to present an idea in such a persuasive, convincing and apparently probable light as to command the assent of the subject. The process is well represented in the every-day expression: "What made you put that idea into his head?" The Christian Scientist works by means of suggestion when he strives to impress upon the disciple that he must "hold the thought" so and so. The essential difference between suggestion and hypnotism is that in the latter the subject arranges beforehand to submit to hypnotism. He is generally fully aware that he is about to undergo the process. Suggestions are more often than not implanted in the subject's mind when he is unaware of the transference. The act of reception may be involuntary. In suggestion the subconscious mentality often receives an idea to which the conscious mentality may be oblivious.

In every-day practice the physician practices the art of suggesting healthful ideas; the laity say, (if he be a successful practitioner), that he has the faculty of inspiring faith in the patient—a wholesome and a profitable faculty. When during his call he states with positive assurance, his conviction that such and such a symptom will disappear and that he will find the patient better to-morrow, he suggests the idea of improvement which belief in his statement impresses upon the patient's mind. When next day he declares his expectation that the patient will be able to sit up on the following day, the suggestion stimulates the latter's latent energy to the extent of realizing the expectation. When then he declares he will be much disappointed if he does not find the patient awaiting him in the sitting room on the occasion of his next call, the latter is aroused by the same processes to the point of obeying the suggestion.

All these editorial observations have been "suggestioned" by a valuable paper by F. J. Runyon (*Jour, A. M. A.,* May 6), who calls attention to the need of a proper mental attitude toward the power of suggestion, which "runs like a thread through every method of treatment, wise or otherwise." Runyon also notes the dangers of self-deception in medicine and of drawing deductions from imperfect data or without due power of discrimination. While suggestion is often a power for good in the hands of the physician, it is one that may be abused and result in great and lasting harm. It is the main instrument of the pretenders; and Runyon reviews some noted instances of their exploitation of human credulity. He emphasizes that the true practice of medicine lies in the intelligent application of common sense principles and forces.

The old lady, Medecine, can hardly be recognized any more, so young and healthy has she become under influence of the youthful spring of the natural sciences. —Helmholtz.

A MEDICAL HERO.

THIS community, none too worshipful of heroes, has recently been very fortunate indeed in the visit of a man of truly heroic mold—Dr. Wilfred T. Grenfell, who works among the deep sea fishermen along the coast of Labrador and Newfoundland. In *Dr. Grenfell's Parish, The Deep Sea Fishermen,* a book by Norman Duncan,* the work to which we allude is sympathetically set forth. Mr. Duncan professes to be no story-teller. His freight is fact—none the less true for being put into vigorous language. The writer employs no Alexandrines or pretty Watteauesque conceits; such would be quite foreign to his subject.

Dr. Grenfell's "parish" is the long, rocky coast, where this physician has labored, and continues to labor, sailing the icy seas in fog and storm and tending the bodies (not forgetting at the same time the souls) of the scattered men and women in a vast and very dreary country, which has become less desolate by reason of his activity. He is an Englishman, this physician, which is greatly to his credit, with a number of other things; and he is commissioned by the "Royal National Mission to Deep Sea Fishermen." He is "a man without fear and full of faith."

Mr. Duncan describes the coast along which this doctor works "naked, rugged, desolate, lying sombre in a mist. There is no inviting stretch of shore the length of it—no sandy beach, no line of shingle, no grassy bank; the sea washes a thousand miles of jagged rock." There are many islands strung along this coast; innumerable little harbors into which a ship may slide through a channel unbelievably narrow and be safe. Then there are storms and wrecks and fogs as thick and so sudden that the afterdeck may be "in soggy gloom and bright sunshine at the bow." This book contains a catalogue of ships that have run upon these rocks or just missed 'em, ships with inspiring names—the "All's Well," the "Right and Tight" and the "Army Lass," whose skipper went upon an iceberg to get a view of the seascape—since the fog lay low and dense. "He clambered up the side of the berg. Near the summit he had to cut his foothold with an axe. This was unfortunate, for he gave this great white mass one blow too many. It split under his feet. He fell headlong into the widening crevice. But he was apparently not a whit the worse for it when his boat's crew picked him up." And there was the "Good Fortune," which, "running through dense fog with a fair high wind and all sail set, struck an iceberg bow on," yet escaped. And Skipper Zachariah of the "Heavenly Rest" who "scorned charts"—like many another skipper in that sea—and steered infallibly by instinct or by "telltales" or doggerel rhymes in which the landmarks and the courses are jingled rudely together.

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* The Fleming H. Revell Co.

These and much else that is rich and inspiriting and profitable—the doctor's hospitals, his steamings on his little ship "Strathcona," himself upon the bowsprit peering into the fog bank as she dashes along in weather when even Labradormen stay in port, his journeyings with sledge and dogs in winter—are to be found in this excellent book, which will make every medical reader vastly prouder than ever before of his profession.

BIBLIOGRAPHICAL

Merck's 1905 Manual of the Materia Medica.—A Ready-Reference Pocket Book for the Physician and Surgeon. Published by Merck & Co., University Place, New York.

The third, or 1905, edition of Merck's Manual, is a compact little volume stored with such information—revised to date—as gained for its predecessors the title "a valuable pocket reference-book for the active practitioner." The publishers sought the aid and suggestion of many physicians in compiling the Manual,, which contains some notable departures from and additions to the previous issue.

Appendicitis: Its History, Anatomy, Clinical Aetiology, Pathology, Symptomatology, Diagnosis, Prognosis, Treatment, Technique of Operation, Complications and Sequels.—By John B. Deaver, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. Third edition thoroughly revised and enlarged, containing sixty-four full-page plates, eight of which are colored. Philadelphia: P. Blakiston's Son & Co., 1905. Pp. 492; large octavo.

The present edition of this great work has been revised and considerably enlarged.

The Germans are credited with investigation of the toxins produced and absorbed and in endeavors made to obtain immunity, but he says the pathology, certain refinements in diagnosis, and especially surgical technique, have been perfected by American and English surgeons. The opinions expressed are largely based upon the author's personal experience, which covers several thousand cases.

Some important changes are observed, particularly in regard to the use of saline cathartics and in reference to abdominal section and its technique in the presence of general peritonitis. Many plates have been added, some of which are new and all are excellent. The work has already become standard and will be found in the library of every surgeon.

The Development of the Human Body. A Manual of Human Embryology.—By J. Playfair McMurrich, A.M., Ph.D., Professor of Anatomy in the University of Michigan. Second edition, revised and enlarged; with two hundred and seventy-two illustrations. Philadelphia: P. Blakiston's Son & Co., 1904. Pp. 539; octavo. Price, $3.00.

The study of this difficult subject for the student to understand, has been very much lightened by the bringing together by the author, information regarding the causes which have determined the structure and relations of the parts of the body, thereby binding the parts together in a continuous whole by giving the reason why things are so. The great key to the significance of the structure and relations of organs is their development and the author has given a concise statement of this process, well suited to the student about to enter upon the study of anatomy. In the present edition the work has been revised and brought down to date.

International Clinics.—A Quarterly of Illustrated Clinical Lectures, and Especially Prepared Original Articles in the Various Departments of Medicine and Surgery by Leading Members of the Profession Throughout the World. Edited by A. O. J. Kelly, A.M., M.D. Vol. I; fifteenth series, 1905. Philadelphia and London: J. B. Lippincott Co. Price, $2.00. Pp. 312; octavo.

This volume is claimed, by those who ought to know, to be the best one that has been issued, and as we glance through its pages we are inclined to think it is, and how it can be published at that price is a question!

The subjects considered are of the greatest importance and the treatment afforded by the eminent authors is of a classical character. One hundred and ten pages are devoted to the progress of medicine during 1904, covering a vast variety of interesting material.

Year books of this kind are of the greatest utility, and no library can be complete without them.

Diseases of the Heart and Aorta.—By Thomas E. Satterthwaite, M.D., Professor of Medicine in the New York Post-Graduate Medical School, Consulting Physician to the Post-Graduate, Orthopedic and Babies' Hospitals, President of the Medical Association of the Greater City of New York. New York: E. R. Pelton, 1905. Pp. 304; octavo.

This volume is based upon a series of articles, which originally appeared in our periodical literature, but has been revised and considerable new matter added. The author has thus placed before the general practitioner a brief, simple but practical presentment of cardiac and aortic affections, from his personal experience. The text is written from the newer view-point and much space is given to modern methods of treatment. The general practitioner will find it a useful addition in his everyday work, as it will help him to manage the cases of which it treats more intelligently and consequently with more satisfaction to all concerned.

Operative Surgery.—By Joseph D. Bryant, M.D., Professor of the Principles and Practice of Surgery, Operative and Clinical Surgery, University and Bellevue Hospital Medical College, Visiting Surgeon to Bellevue and St. Vincent's Hospitals, Consulting Surgeon to the Hospital for Ruptured and Crippled, Woman's Hospital, and Manhattan State Hospital for the Insane, etc. In two 8vo. volumes, 1527 pages. 1793 illustrations, 100 of which are in color. Sold by subscription. Price, cloth, $10.00. Fourth edition, printed from new plates. Entirely revised and largely rewritten. New York and London: D. Appleton & Co., 1905.

This work has been so thoroughly revised that it may almost be looked upon as new. In the first volume the subjects of anesthesia, shock, ligatures of the innominate artery, opening of the mastoid antrum, intracranial neurectomy and goitre, have been extensively elaborated, as have also the operations for aneurism, and that for facial paralysis, special operations on the head of the humerus, paraffin injection for correcting nasal deformity, and esophagostomy, are some of the recent additions.

In the second volume the additions are of the widest scope. Operations on the stomach and intestines, the newer methods of intestinal anastomosis, in which there have been material advancements of late have been brought thoroughly up-to-date. There have been added the anastomosis of Connell's suture, O'Hara's forceps, Coffey's crushable potato bobbin, Harrington's segmented rings, Lundholm's forceps and McGraw's elastic ligature; also McGraw's recent method of colectomy, Moynihan's gastro-enterostomy, Mayo's pylorectomy and Finney's pyloroplasty have been added. Gastropexy, gastric ulcer, epilopexy, choledochectomy, hepatic abscess and drainage of the bile ducts have been largely amplified. These subjects are all illustrated with new drawings and made as interesting as possible, in Dr. Bryant's clear and concise language. There is a vast amount of original matter to be found here.

The changes and additions are too numerous to mention, but we ought to note that special pains have been taken to give the "results of operations," so important to the practitioner.

This work stands in the very front rank of text-books and books of reference, and it can be depended upon as being thoroughly up-to-date.

Practical Problems of Diet and Nutrition.—By Max Einhorn, M.D., Professor of Medicine at the New York Postgraduate Medical School and Hospital and Visiting Physician to the German Hospital, New York. New York: William Wood & Co., 1905, pp. 64, 12mo. Price, 75 cents.

The author well and truly says, that the knowledge of nutrition and diet, should be the A, B, C, of the physiologist and the physician, without which, no rational treatment of any disease is possible. This little book consists of a collection of papers which have already appeared in periodical literature, and it is convenient to have them in this form for reference. The author emphasizes the paramount importance of a sufficient nutrition.

Surgical Diagnosis.—A Manual for Practitioners of Medicine and Surgery. By Otto G. T. Kiliani, M.D., Surgeon to the German Hospital, member of the New York Surgical Saciety, of the Surgical Society of Berlin (Germany), etc. Illustrated by fifty-nine full page plates, and by engravings in the text. Octavo, 466 pp., muslin, $4.50, half morocco, $5.50 net. New York: William Wood and Company.

The most popular work on this subject ever published in this country was Dr. A. L. Ranney's "Surgical Diagnosis," published twenty-five years ago. The success of that book is the *raisin d'être* for the present work, and the features which made Ranney's book so popular have been remembered in the production of this volume.

The author's aim all through the book has been to combine a high degree of scientific accuracy and good sense, with a practical presentation of the subject and the terse style that the busy practitioner especially demands in a reference book of this sort.

The object of this book is twofold: to describe, as exactly as possible, the symptoms peculiar to a disease, on which a diagnosis can be based, and, wherever feasible, to show how to observe these symptoms.

The operations which may become necessary and the selection of the particular operation, as well as the prognosis, have been mentioned, only in so far as it is important for the practitioner to know them when proposing operations to his patient.

The book is exquisitely illustrated. A valuable feature is the large number of tables of symptoms, differential diagnosis, etc.

The author's large and varied experience entitles him to speak with authority on the subject, and the eminently practical nature of the work is apparent on every page.

Consumption: Its Relation to Man and His Civilization.—By John Bessner Huber, M.D., is in press and announced to appear shortly by J. B. Lippincott Company, Philadelphia.

In this work the author will furnish a comprehensive exposition of the effect which consumption has had upon civilization, and a consideration of its relation to human affairs. It is hoped, moreover, that it will be found an adequate if not exhaustive text-book concerning this disease.

The book is addressed to the physician and the layman, the purely technical portion being placed in appendices. The publisher will send circular announcement upon request.

Static, High Frequency, Radio, Photo and Radium Therapy.—By William Harvey King, M.D., LL. D., Author of Electricity in Medicine and Surgery; Head of Clinic of Physical Therapeutics at the Flower Hospital, etc., etc. New York: Boericke and Runyon, 1905, 12mo, pp. 291.

This little book covers only the subjects given on its title-page, not claiming to be a treatise on the general subject of electro-therapy. The subjects are discussed at much greater length than they would be in a general work, are well digested and adapted to the use of the busy practitioner. The author has assumed a conservative position, and his statements appear to be reliable. Any reader interested in the matters of which it treats, will certainly desire to possess this up-to-date book.

The Detection of Poisons and Strong Drugs, Including the Quantitative Estimation of Medicinal Principles in Certain Crude Materials.—By Dr. Wilhelm Autenrieth, Professor in the University of Freiburg. Authorized translation from the third enlarged German edition. By William H. Warren, Ph.D., Professor of Chemistry, Medical Department of Washington University, St. Louis, Mo. Seventeen illustrations. Philadelphia: P. Blakiston's Son & Co., 1905. Pp. 222; octavo. Price, $1.50.

This is a concise laboratory-guide to toxicological analysis, for students of medicine and pharmacy, and only the more important organic poisons which can be easily detected have been included. The last chapter deals with the quantitative estimation of certain active principles in crude materials used in medicine, etc. The detection of blood has been briefly considered, and finally the biological detection of blood has been added to give the book completeness.

Mechanical Vibration and Its Therapeutic Application.—By M. L. H. Arnold Snow, M.D., Professor of Mechanical Vibration Therapy in the New York School of Physical Therapeutics, Late Assistant in Electro-Therapeutics and Diseases of the Nervous System in the New York Post-Graduate Medical School, etc. New York: The Scientific Authors' Publishing Co., 1904. 297 octavo pp.

This book has been written to call attention to the fundamental principles which will enhance the value of mechanical vibration, not only in its present therapeutic application, but in the important field which the author thinks will be opened to it in the future. The book will be found useful by those who employ this form of treatment.

CORRESPONDENCE

AN IDEAL LIFE WORTHY OF EMULATION.

To the Editor of the MEDICAL TIMES:

Dr. Thomas H. Manley was born in New England of Irish parents. His claim to be called an Irish Yankee was allowed, a thing of which he was very proud and always smiled good-humoredly when I called his attention to it.

Born in humble circumstances and left a half-orphan when quite young—was an immense advantage to him. This apparent disaster proved a blessing in disguise and was a character-developer. It made him raise his hand and show his colors, and at an early day express his preference for something. It was the profession of medicine.

Had Dr. Manley a rich father, this society might not now be in existence, nor maybe never would have had an existence, as he was a pioneer and a principal in founding it. Most of us, members now, came later, and have little idea of the Titanic struggle Thomas H. Manley made to endow it with life, and once the spark was kindled to keep the fire glowing.

I say rich father, that as a rule means a leisurely son—one not intensely interested in developing his gray matter. Then the subject of my sketch to-night was in his early life bequeathed the rich heritage of poverty, the greatest character-developer of the age. It, as I said, will make a boy show his colors and test his mettle. Thomas H. Manley was tested and in the trial was not found wanting.

It would be foreign to the purpose of the writer to go into the history of self-made men, but he will say: Take away from the progress of the world what has been accomplished in the various fields of human activity in the last fifty years by self-made men and there is very little of achievement or progress left. Dr. Manly was a shining light among those self-made men.

Behind in the early stage of the race, he rapidly came up with the leaders, set the pace, and was found at the front when the bugle blast was blown that ended his earthly career.

Dr. Manley was comparatively a young man when he died, Dr. Osler to the contrary, notwithstanding. His work was well done but only half-completed when he left us, and inspired by his example let us bestir ourselves and take up the work where he laid it down, and show by our zeal and intelligence in furthering its progress that we are worthy to follow in his footsteps. His was a worthy example, now let us follow.

To a fine physique and engaging personality, Dr. Manley added an inexhaustible store of professional and miscellaneous knowledge acquired by reading and reflection, qualities that do not always accompany each other. In himself was combined a library rich with the thoughts of great lights present and passed off the stage.

He was not, like most members of the profession he loved and honored, deficient in the knowledge of things not immediately concerned in his professional work.

As a surgeon, Dr. Manley was recognized more as a director-in-chief and organizer of ways and means to accomplish a desired end, than as a subordinate operating in a limited field, hampered by conditions he was helpless to remedy. He was the commander-in-chief, overlooking the field, rather than the *division-general,* with one idea and purpose to accomplish, the mission on which he was sent.

The subject of my sketch was widely read on medical and surgical literature. On his office-table were regular weekly editions of German and French medical literature. Those foreign weeklies bore evidence of much handling—the leaves were all cut and many times turned, showing very plainly that our lamented and beloved friend was eager to know more and more, and all there was to be known of a profession he used to speak to me of with pride. His weekly journals of which he had many, were read and well-digested, while most of *our* weeklies are on our tables with the wrappers still upon them awaiting our convenience to be read, though we have not half as much to do as he had nor our time half as valuable as his. The truth is Dr. Manley was a voracious and constant reader. He would any time rather read than eat and when crowded with work, which was practically always, he robbed himself of sleep, to be certain there *was* no *new* discovery in surgery with which he was not acquainted, nor no drug left untried that might the better benefit a fellow-creature lying *in extremis* on his cot, alone, though in the midst of activities, turmoil and suffering incidental to injury—and hospital isolation.

As a writer, Dr. Manley was not second to the best. He was clear, concise, forceful and expressive and therefore readable. His compositions never had a soporific effect on his hearers as you, my fellow-members of this society, can attest, a quality for which I know you loved him the more. His articles from time to time as they appeared in the leading medical journals on abdominal surgery were widely read and favorably commented on by the most distinguished surgeons of the day.

His brochures on hernia are masterpieces of surgical literature and will survive the ravages of time, when most of the volumes of the present day with their writers will be forgotten. Why? Because he has told something tangible, practical, about a subject full of disappointment and uncertainty.

He has shown the surgical world how to build a wall to shut in the intestine—heretofore held in by a clumsy truss and with much pain to the wearer of it. To build a wall, a buttress, in a region abounding in quicksand and poor in means of support is a problem about which Dr. Manley had much concern, thought and worry, but to his honor and the triumph of surgery, he solved it.

Not to say a word on the social side of Dr. Manley would be to leave this brief account of his life, at best imperfect, more imperfect still. He was the life of any company in which he was placed if the company were acceptable to him. When a period of repose or intermission between topics of conversation occurred, the presence of mind and wit of Dr. Manly relieved the occasion of the imputation of being dull. It has passed into legend that where MacGregor sat was the head of the table, but it can be said with truth that where Dr. Manley sat was mirth and wit seasoned by ripe judgment and rare perception as to what should or should not obtain or prevail. On the spur of the moment and quick as a lightning flash he was ready to fill a void, or help a fellow who floundered or lost the thread of his discourse.

This all-round good fellow could not go beyond his depth as many of us gentlemen know to our discomfiture and humiliation, as he had the faculty of accommodating himself to the conditions in which he happened to be placed, and regardless of the predicament, extricated himself without effort.

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*Remarks before the Celtic Medical Society.

His eye, though uncommonly keen and penetrating, was no keener than the brain behind it. That brain, no longer living matter and pulsating for us, was as quick as his eye and grasped a subject and held it with bull-dog pertinacity until every idea and feature worth considering was squeezed out and examined with great exactness.

Dr. Manley was as strong in debate as he was in repartee. In argument he had an object in view and it was to overwhelm his antagonist, which he almost invariably did. As a debater he was eloquent, able and ready. He quickly saw the flaw in his adversary's argument and not only defeated him but convinced him he was wrong.

Our society, consisting of fifty members, had *three* orators with talents conspicuous, and the foremost, the very foremost of those three, was our lamented friend, Dr. Manley.

When I heard of his death, I had premonitions of disaster for the Celtic Medical Society, as his loss is irreparable. But on calmly looking the situation in the face to-day, I have hope, since all its members have pledged themselves anew and clasped hands over Dr. Manley's grave, that if only for his memory and sake, the Celtic Medical Society *shall not perish.*

Dr. Manley, had he entered one of the other learned professions—law or divinity—would indoubtedly be a shining light and at the front, as the versatility of his knowledge and his mental depth and clearness with judical and argumentative temperament would at once command attention and respect. But his lot was cast with us and to the medical profession he was an exemplar and mentor while to the Celtic Society he was its anchor and hope.

But fellows of this society, however, we may miss him and mourn his loss, we are not unmindful that there are others who suffer, and hearts to-night bleeding for lack of the presence and cheering words of one who was wont to bring sunshine and good cheer to the social hearth. There the blow strikes hardest. There is a chair vacant that cannot be filled. There the faithful partner of our friend's years of struggle and triumph sits weeping. But she does not weep alone, for in those, now the hours of her agony her hands are supported by a sublime hope and the ministrations of four loving daughters, the priceless heritage and legacy of love bequeathed by him to the woman in whom his hopes and ambitions were centered.

To her the fellows of this Society extend their sympathies in the name of our friend, a good man—her husband, who knew neither hardship nor toil, while laboring with a ceaseless, tireless industry to advance the interests of the Celtic Medical Society and to keep it at the front in the fierce struggle, a struggle where defeat meant death while success perhaps meant honor and emolument.

In temperament, Dr. Manley was sanguine and hopeful. In every conceivable condition of life, however, wretched and discouraging, he saw a brighter side and the kindly light. He was the soul of optimism and awaited with confidence the future as it was evolved fresh from the loom of destiny.

He believed that happiness was within the reach of all and that failing to attain it was evidence of the lack of development and the sore need of further effort.

Good intentions were valued at what they could bring by this apostle of intense and firm convictions. His gospel was to put those intentions into practice. He had a profound contempt for a man without convictions. For one to vacillate, hesitate, when the road to duty was clear was to him high treason, and whether an evidence of degeneracy or treason, he was to be swept away, or brushed aside to make room for the victor, the man who dared to try.

Gentlemen, this is the type of man who has surrendered. But his surrender is not ignominious. He was defeated only after a desperate struggle and in honorable combat, with an unequal foe—a foe with which all of us will have to do battle single-handed and in turn some day.

Here, to-night, a chair is vacant, and a strong voice hushed forever—a voice we were wont to listen to with pride and profit—a voice that prided in denouncing wrong and that gloried in championing the right as he saw it.

Let us drape his chair with tears, and crown his brow with the wreath of good work well done, while we stifle a sigh and cherish a hope that he has only gone on before us to receive his reward as one of the faithful and be counted among the elect. May the earth lie lightly on his grave. His motto: *Sola nobilitas virtus.* THOMAS J. HILLIS, M.D.

"JAUNDICE IN TYPHOID FEVER."

To the Editor, MEDICAL TIMES:

In my article "Jaundice in Typhoid Fever," (published in your April issue), my attention was called by Dr. David Reisman to an error through which his name was attached to the "yellow palm" sign in typhoid fever. He very kindly informs me that the credit for this discovery rightly belong to Philipowitz.

Will you kindly favor me by informing your readers of this error in your next? Thanking you in advance, I have the honor to be, Very truly yours,

JULIUS H. COMROE, M.D.

Duodenal ulcer was operated upon by Mayo, W. J., (*Annals of Surgery*) in 58 cases, which he divides into groups: First, acute perforation, six cases, two deaths; second, hemorrhage, one fatal case; third, chronic duodenal ulcer, with gastric complications, twenty-eight cases, one death; fourth, chronic perforating ulcer, with gall-bladder and liver complications, eleven cases, one re-operation, no deaths; fifth, chronic ulcer requiring operation for relief of pain and distress, thirteen cases, no deaths. Mayo thinks posterior gastroenterostomy would be the operation of choice in chronic cases; but leaves room for further consideration. Even with a large gastroenterostomy food will pass out by preference through a patent pylorus by muscular action, the apparent gravity advantage of a low-point wound being equalized by intra-abdominal tension. Closure of the pylorus to divert all the food to the artificial outlet is under consideration by Mayo, who thinks it should be done in the large majority of cases if there is no cicatricial obstruction.

THE AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATION.

The eighth annual meeting was held at the New York Academy of Medicine, Monday and Tuesday, April 24-25, 1905. The Association now numbers 35 members, in spite of the utmost conservatism in the admission of new members. While not requiring close limitation of practice, considerable attainments in scientific and clinical lines dealing with the digestive organs and functions, are required and it is said that less than a third of the total candidates for membership have been accepted. On the other hand, guests are freely admitted to the meeting the program usually includes some non-members. A brief résumé of the program as actually presented, follows:

1. President's Address. S. J. Meltzer, New York. None of the active members have died, but the president reviewed the necrology among the foreign, corresponding and honorary members.

2. Recent Advances in the Knowledge of the Movements and Innervation of the Alimentary Canal. Walter B. Cannon, Boston. In the esophagus and other parts without digestive or absorptive function, the peristaltic wave is comparatively rapid. In the stomach, the resistance of the pylorus and, in the colon, the antiperistaltic wave against the ileocæcal valve and sphincter, repeatedly bring the contents into contact with the surface and provide for thorough admixture. Regurgitation through the cardia, as high as the heart and return peristalsis, repeatedly occurs in dogs, becoming less frequent toward the close of gastric digestion. The cardiac half of the stomach is comparatively inactive but the peristalsis of the remainder is repeated about every 20 seconds, as has been shown by Roux by X-rays, using bismuth, and as may be verified by auscultation of the stomach when the food contains considerable air. Free acid is probably the exciting cause of pyloric relaxation while acidity in the duodenum or an excess of fat in the duodenum causes pyloric closure. Carbohydrates begin to leave the stomach in ten minutes and reach a maximum in the duodenum in 2 hours, while proteids are delayed for half an hour or more and then leave the stomach very slowly. In the small intestine, there are no true sphincters but rhythmic segmentation occurs and the food may be worked over 1,000—1,500 times, before moving onward. The wave occurs every 7—8 seconds, judging by auscultation. The lower half of the large intestine contains comparatively solid matter, whereas the proximal half contains a liquid mass subject to antiperstaltic waves, providing for the mixture with juices from the small intestine and absorption. The subject of innervation was also discussed.

3. Recent Advances in the Knowledge of the Chemical Processes of Digestion. Lafayette B. Mendel, New Haven. This paper was really an extensive review of the chemistry of digesion, with special reference to erepsin, invertin, antienzymes and the specific enzymes. For instance, lactase is formed only when lactose is given, and only when given by swallowing, and it gradually increases under a milk diet.

4. Is the Milk-coagulating and the Proteolytic Effect of Gastric Juice due to One and the Same Enzyme? John C. Hemmeter, Baltimore. The writer reviewed Pawlow's claim and pointed out some fallacies and strongly intimated that the older conception of pepsin and rennin as separate ferments must stand.

5. The F. A. Hoffman-Ostwald Method of Determining the free HCl of the Gastric Juice by Dissociation of Methyl Acetate. Same author. Hemmeter has considerably modified the original method and has recourse to titrations with phenolphthalein after 4 hours' exposure to allow complete dissociation of methyl acetate. Dissociation by lactic and other fermentation acids is always too minute to affect the result appreciably. Four tests are made to obtain the necessary data, as follows:

I. 10 c.c. gastric filtrate;
II. Same plus 2 c.c. methyl acetate;
III. 10 c.c. water plus 2 c.c. methyl acetate;
IV. 10 c.c. N/40 HCl plus 2 c.c. methyl acetate;

$\mathrm{II} - (\mathrm{I} + \mathrm{III}) = x$, = acetic acid liberated by HCl of gastric juice. $\mathrm{IV} - (2.5 \times \mathrm{III}) = y$, = acetic acid liberated by water.

Then follows the proportion, $y : x :: 0.091 : z$, z being the HCl sought.

6. The Immediate Effect of Biliary Retention on the Gastric Secretion. Julius Friedenwald, Baltimore. This paper was read in the author's absence. He had noticed a marked tendency to increased secretion of HCl and of the total gastric juice, probably due to an asthenic state of the gastric glands.

7. Diverticulum of the Oesophagus with Report of Cases. Wm. Gerry Morgan, Washington. This paper was also read in the author's absence. It was a very complete summary of the subject. The original observations were not reached, on accounts of the time limit.

8. I. Adler of New York reported a case of profuse gastro-enteric hemorrhage, with death from secondary anemia. No lesions were found postmorten in any of the abdominal viscera excepting evidences of vascular degeneration. Dr. Morris Manges mentioned a similar case in which a small, sharply limited esophageal varix was discovered. Dr. Adler thought that the palpation of the esophagus during gastrotomy and the repeated passage of the stomach tube excluded this possibility in his case.

9. Further Remarks on Ischochymia and Its Treatment. Max Einhorn, New York. In a considerable series of new cases, 1.45% were of ischochymia of all kinds, 0.7% of non-malignant ischochymia. The latter cases numbered 9. In two or three cases, there were tumors at the pylorus, probably tuberculous. Lavage and dietetic management relieved some cases. When medical treatment fails, operation, usually gastro-enterostomy, is indicated. The surgical mortality is 5—25%, 10% being a fair average. Surgical treatment is also indicated for continuous acid supersecretion.

10. Sarcoma of the Stomach with Report of Two Cases. Morris Manges, New York. About 75 cases are recorded. The prognosis of operation is somewhat better than for carcinoma. The favorite site is the curvatures, especially the greater, while the pylorus is quite rarely involved. On account of the lack of involvement of the orifices and of the mucous membrane, diagnosis is difficult. The tumors may reach a weight of two pounds. Dr. Brooks reported 4 cases in 1,200 serial necropsies, one having been diagnosed clinically.

11. The Relations of Some of the Metabolic Diseases to Intestinal Disorders. T. B. Futcher, Baltimore. Garrod's view of Alkaptonuria as a physiologic sport, was accepted and specimens of homogentisate of zinc were shown. Ochronosis usually occurs as a manifestation of Alkaptonuria. Cystinuria is probably also a physiologic sport.

12. Diagnosis of Gastric Area with Special Reference

to Transposition of Viscera, Sling Stomach and Hour-Glass Stomach. A. L. Benedict, Buffalo. The speaker emphasized the value and convenience of examinations by auscultatory percussion and claimed to have been the first to use bismuth with the X-rays. Diaphany was not regarded as especially valuable. Auscultation of esophageal sounds was especially valuable to determine whether an area already mapped out, was that of the stomach or of part of the colon. The case used to illustrate Hour-Glass Stomach was really one of old ulcer at the pylorus in which cancerous degeneration was shown microscopically, the lower pouch being dilated duodenum. The incurved area had been demonstrated during life both by auscultatory percussion and X-rays and was verified at the necropsy.

13. Comparison of the Methods of Lavage with the Syphon Tube and Kutner Bulbs. John P. Sawyer, Cleveland. The latter method, in which suction by rubber bulbs is employed, was shown by numerous experiments to be much more thorough and was used not only for extracting test meals but for lavage, in many cases.

14. Occult Blood in Feces. J. Dutton Steele, Philadelphia. Old turpentine was to be preferred to hydrogen peroxid in employing the guaiac test but the reaction with aloin was more satisfactory. The stools of certain days could be separated by administering charcoal. One meal of red meat a day gives a faint reaction, 2 such meals a plain reaction. Various proprietary meat extracts give the reaction but not inorganic iron. Meat should be cut out of the diet for at least 24 hours before making the test, and vegetables rich in chlorophyl, may obscure the test. In gastric and duodenal ulcers, occult blood is usually found every few days, while in cancer, it is present in almost every passage. When the blood persists under milk diet, it is rather characteristic of cancer. The hope of foretelling massive hemorrhage had not been realized and the test had proved somewhat disappointing as to practical results. Of 15 typhoid cases, 8 showed blood during second and third weeks.

15. A Case of Gastrocolic Fistula. J. Kaufmann, New York. The patient had a long history of gastric trouble and a fistula was made between the stomach and jejunum. Subsequently, the colon became adherent to and opened into the stomach and fecal vomiting occurred. After exising the fistulous openings from the colon into the stomach and the jejunum, the lumen of the colon was so narrowed that short-circuiting became necessary, but the patient died a few days after operation.

16. Etiology and Serum Treatment of Dysentery. Wm. H. Park, New York. Amoebic dysentery, especially acute, is exceedingly rare in this climate. Throughout the northern temperate zone, clinical acute dysentery, with mucus, blood and tenesmus, is as regularly marked by bacilli of the dysentery group as is clinical diphtheria by the Klebs-Löffler bacillus. In the great epidemics of dysentery, the world over, the Shiga bacillus is found. In lesser epidemics, various bacilli are found, closely related but having specific differences. These may be termed para-dysenteric bacilli. Their relation to the true Shiga bacillus and with one another, is shown by the presence of a general aggultination, reaction and protection by serums but for each variety, the specific reactions are more marked.

There is now nearly universal agreement that the Shiga bacillus is rarely found in summer diarrhea or atypic dysentery. The more closely these cases approach the dysenteric type, the more likely are paradysenteric bacilli to be found. In cases not of dysenteric type, the bacilli of the dysenteric group are either not found at all or not the characteristic germs.

As to the practical use of the serum, many mild cases of true dysentery yielded to other treatment very promptly. However, the use of 20 c.c. of serum every day for 3—5 days was advised for typic dysenteric cases and it seemed to act favorably. The serum is bactericidal and not antitoxic, and cannot be standardized. In the summer diarrheas, the antidysenteric serum does neither harm nor good.

John Henry Huddleston, of New York, led the discussion. He stated that in cases in private practice, he had been absolutely unable to find any obvious cause.

17. Clinical Features and Medical Treatment of the Benign Stenoses of the Pylorus. Henry L. Elsner, Syracuse. In general, we should hesitate to regard gastric troubles as functional, but should look for an organic basis. A very comprehensive discussion was given, to which justice cannot be given in a brief abstract.

18. Surgical Treatment of Same. George Emerson Brewer, of New York, illustrated, with diagrams, the various operations proposed, the later modifications aiming especially at avoiding the well-known vicious circle of regurgitation. The latest, simplest and most satisfactory operation is to unite the jejunum as near the duodenum as possible, to the lowest part of the stomach, without any further anastomosis. Several gentlemen participated in the discussion.

19. Onomatologia Gastrica. A. Rose, New York. The reader criticized many terms introduced by men whose ignorance of Greek had led to very amusing meanings for some words, and to hybrid words. He suggested that new terms should be submitted to the faculty of the University of Athens.

The officers of the Association for the following year are as follows: President, Henry Wald Bettman, of Cincinnati; Vice-Presidents, S. W. Lambert, New York, and John P. Sawyer, Cleveland; Secretary and Treasurer, Charles D. Aaron, Detroit; Councilors, A. L. Benedict, Buffalo, E. Quintard, New York, J. Kaufmann, New York.

Acne requires vigorous use of the curet, the acne lancet and the comedo expressor by the physician every fifth day; while meantime the patient applies at least every night some sulphur prepartion, preferably "lotio alba" (zinc sulphate and potassium sulphuret āā ʒi-ii with rosewater up to ℥iv). This is to be well shaken before use. Resorcin and sulphur soap are also appropriate. G. T. Jackson (*Med. Rec.*, March 18, '05) would limit the use of the Roentgen rays to intractable cases; great caution is here required to prevent doing harm. This affection is even commoner than eczema; and while it is often stubborn most cases can be greatly benefitted in a short time and very many of them promptly cured. Women particularly, in the hope that pristine comeliness may be restored to their faces, will endure very cruel curetting, if they become convinced of its benefit. There must be attention to the patient's general health—baths, diet, exercise, attention to hygiene; particularly in young women is the question of the normal menstrual function to be considered. Acne in such cases is often given to exacerbation at this period.

RETROSPECTIVE THERAPEUTICS

CANCER PROBLEMS.

The increased interest taken in cancer has led to several curious phennomena, for example, there has been an alleged increase in cancer mortality in late years, which in fact is probably due to more perfect diagnosis and notification in death certificates. Yet, so great an authority as Sir William Banks believes that an actual increase has occurred.

As regards the cause of cancer, there are two opposing groups still; those who regard the disease as due to extrinsic causes—practically to a parasite; and those who are of opinion that the occurrence of malignant growths can be explained by purely intrinsic causes, inherent within the normal cell. Coley, a supporter of the parasitic theory, bases his belief on the following clinical grounds: (1) The increase of cancer in recent years is difficult to explain on any other grounds; (2) The local prevalence of cancer in certain districts is in favor of the same view; (3) The power of cancerous tissues or fluids to infect neighboring tissues by contact can also be best explained on the parasitic theory; (4) So also can those cases in which one individual appears to have been directly infected from another, while the laboratory evidence in favor of this view is founded upon the finding of apparently parasitic bodies in cancerous growths. Some have regarded these as protozoa, others as blastomycetes, and many high authorities have pronounced them to be parasites and not cell degenerations; but proof that these are the cause of cancer is still lacking, largely because it is so difficult to obtain the bodies in pure culture with a view to inoculation experiments. San Felice obtained pure cultures of blastomycetes from cancer; with cultures of a similar organism from fruit he inoculated a dog, and produced a typical adeno-carcinoma with metastases.

The majority of cases of uterine cancer, when they consult the surgeon, are too far advanced for the hope of a radical cure, but German statistics show that this is less true now than it was ten years ago. This is hopeful, showing that the teaching of surgeons concerning the necessity of early diagnosis and early operation for cancer is having its effect. The percentage of cases of cancer of the cervix remaining free from recurrence at the end of five years, after vaginal hysterectomy, is variously given, but it may be claimed confidently that at least 10 per cent. of the cases operated upon remain free from the disease at the end of five years, and may be considered cured; even better results are claimed by some surgeons.

The results of hysterectomy whether vaginal or abdominal for carcinoma of the uterus are much more satisfactory; when this point is brought out in statistics it is shown that about 75 per cent. of the cases are permanently cured; hence, for timely operations for uterine carcinoma a good prognosis may be given. The abdominal radical hysterectomy for cancer of the uterus, involving the removal of the pelvic glands and the parametria along the uterus, is still upon trial. Its primary mortality is probably double that of vaginal hysterectomy, and it has not been practiced long enough for permanent conclusions as to the results which may be thus secured, but theoretically it should give better results than vaginal hysterectomy, because the parametria and at least some of the lymphatic glands of the pelvis are removed, although in practice this is not always done. Aside from theoretical considerations the most encouraging report concerning the operation is the statement of Wertheim, that after two and a half years' experience he has not met with recurrence. There is a resemblance between senile endometritis and incipient uterine carcinoma; discharge is the first symptom, together with pain and general constitutional disturbance, if the cervix is obstructed; this discharge is seropurulent, less glutinous than that of leucorrhea, and microscopic examination is necessary to differentiate it from that of specific disease and carcinoma. Gastric disturbances and a dry bronzed skin often impart a cachetic appearance suggestive of malignant disease. From adenoma senile endometritis is distinguished by the absence of metrorrhagia. If the disease does not extend beyond the cervix, astringent douches are efficient, but should the whole of the interior of the uterus be involved it requires the free application of iodoform. The connection of displacements or cervical stricture is importnt if these conditions are present, and for the latter gradual dilatation and drainage are required, avoiding rapid dilatation on account of the ease with which the senile uterus may be torn.

In studying cancer of the cervix uteri, Balloch concludes that the present status of operative intervention is that it is practically useless in cases as they usually come under the notice of the surgeon. In the operable cases the only procedure offering any reasonable prospect of a permanent cure is the so-called radical operation by the abdominal route. Vaginal hysterectomy is useless as a radical operation, but has a place as a palliative measure; Balloch urges that the upper part of the vagina is deserving of more attention, from the standpoint of recurrence. The most promising outlook for these cases lies in early diagnosis, combined with thorough and complete operative measures.

Nason analyzed the report on 5,000 cases of death from malignant disease by a committee of the Birmingham and Midland Counties Branch of the British Medical Association. The following are the more certain predisposing causes: (1) Prolonged local irritation, due to various causes, setting up local inflammatory changes in the irritated tissue. (2) The immediate or after-effects of direct and suddeny injury whether mechanical, thermal or chemical. (3) Syphilis, and possibly other constitutional diseases which are associated with local tissue changes. (4) The tissue degenerations of advancing years, varying with the age. (5) Individual proclivity. (6) The presence of foetal remnants or "cell rests." (7) The residence in the neighborhood of a sodden and sewage-soaked soil. These conditions lower the resisting powers of the individual cells and under such conditions the invasion of a parasitic organism would be expected to have most chance of success. If such exists, how does it gain entrance to the body? It may take place in one or more of the following ways: (1) Absorption from the intestinal tract; (2) Absorption from the respiratory tract; (3) Direct inoculation (a) through abrasion of skin or mucous membrane; (b) by the bites of blood-sucking insects.

The attitude of the profession in all directions is one of hopefulness. With no especially new methods of treatment in tuberculosis, cancer and other chronic diseases a vast amount of study is being devoted to these subjects and with such an attitude of research and expectancy the battle is already half won.

Eclampsia is a condition always grave, which may at any time confront the general practitioner who does obstetrical work. It is due to a toxin which probably has its origin in the liver. The development is maternal rather than fetal (Allen, *Am. Jour. Obst.* February, '05). Premonitory symptoms are always present; the most constant and most important of these is frontal headache. The diagnosis of this toxemia should be made early; and this can be done if the patient is under constant observation, as she should be. The mortality should not exceed twenty per cent. When premonitory symptoms appear the uterus should be emptied as rapidly as is consistent with cleanliness and the integrity of the soft parts. From 300 to 700 cubic centimetres of blood should be drawn and then from 500 to 1,000 cubic centimetres of salt solution should be infused according to the quantity of blood withdrawn and the character of the pulse. This operation may have to be repeated. Morphine, grain ¼, may be given to relax the muscular system, and Croton Oil, 1 to 2 drops, in olive oil, 1 to 2 drachms, followed by magnesium sulphate, ℥ss, in saturated solution until free purging has resulted. The diet should be limited to milk and water. Other treatment should be expectant.

Arthritis deformans and arteriosclerosis appear closely analogous, in the opinion of Bradford which F. L. Richardson approves (*Bost. Med, and Surg. Jour.*, March 9, '05). Arteriosclerosis has been ascribed to many causes and the manifestations may be very varied. The condition may be widely distributed, or narrowly circumscribed; there may be a condition of hyperplasia only or there may be ulceration, calcification, or even formation of true bone. It cannot be said, because of these numerous manifestations, that we are dealing with many diseases. Why, in one case there is new formation of bone and in another absorption at present is as much unknown as are the varied conditions that give rise to the disease. It is possible that the disease is often the result of some general alteration in the body metabolism.

The Curability of Early Paresis is considered by C. L. Dana (*Jour. A. M. A.*, May 6), who suggests that this affection, like tabes (both parasylphilitic disorders) may be arrested in its early stages. He does not refer here to the well-known remissions of the disease, in which there still remains a certain amount of paretic mental impairment, but he rather means a complete disappearance of all evidence of degenerative changes in the brain. In a number of cases which he reports, having symptoms decidedly indicative of paresis—characteristic mental changes—convulsions, Argyll-Robertson pupil, etc.—these disappeared under treatment, and the patients remained well under observation for various periods. The treatment generally consisted in complete change of life, antisyphilitic medication, preferably hypodermic, hydrotherapy and attention to the general nutrition. Dana thinks there is no *a priori* reason why paresis in its early stages may not be sometimes cured, and he holds that the cases he reports point that way and indicate the importance of an early diagnosis and treatment of this disease which has heretofore been considered incurable.

Tuberculous ascites is treated by Shoemann (*Internat. Jour. Surg.*) as follows: The abdominal wall is punctured with a moderate sized canola and such fluid as escapes spontaneously is evacuated. A sterile iodoform emulsion (one to five parts to glycerin 500) is then injected into the free abdominal cavity, beginning with 1 to 2 c.cm., and increasing the concentration and dosing at each subsequent injection, these being made at intervals of four to eight days. Thus far he has treated seven cases in this manner, all females, in age from two to nineteen years. Apparent cure was obtained in from three to ten weeks. In two cases (children) the serous exudate failed to return after the secondary injection. In the case of a girl of nineteen who suffered with an infiltration of both apices, the fever disappeared after the third injection and the sweats subsided; changes in the pulmonary tissues vanished without leaving behind any perceptible traces. The diagnosis was always confirmed by tuberculin injection. No toxic effects from the iodoform were ever observed. This procedure would seem preferable to laparotomy for this lesion.

The path of infection in pulmonary tuberculosis. Wassermann (*Berl. Klin. Woch.*, November 28, '04) cites a number of cases tending to show that in many cases the infection reaches the lung through the tonsils and pharynx *via* the cervical lymph nodes and the pleura. The pharyngeal mucous membrane allows the bacilli to pass through when there happens to be present some local inflammatory lesion. The cervical glands then become secondarily involved. The infection travels down the lymphatics to the pleura, where it sets up a localized pleuritis, with the formation of adhesions. The bacilli are then able to enter the lung itself. Adhesions form most readily at the apex because in this locality there is less amount of movement during respiration. The preliminary symptoms are usually not observed by the patient, but any involvement of the pleura is noted immediately, and this is very sensitive. The shooting pains in the shoulders are therefore the first things complained of by the patient. Physical signs at the apex are absent, except possibly friction rales. In these opinions Wassermann is now joined by many noted phthisiologists.

The Eyesight of Employees has, since the fatal collision between the Elbe and the Craithie, nine years ago, enlisted the attention of the ophthalmologists of Great Britain, who have tried to convince the Board of Trade that all employees upon whose eyesight the lives of passengers depends, should be subjected to very rigorous examination. In Australia there has been similar agitation. J. W. Barrett and W. F. Orr (*Lancet*, October 29, '04) declare that after the wreck of the P. and O. steamer "Australia," conditions were found by expert ophthalmologists of so startling a nature that the advice of physicians is in future apt to be very closely heeded, in that region, at least. In this case the pilot boarded the "Australia" five miles from Queenscliffe. In entering port two lights must be kept in line or nearly so .The pilot stated that he was breathless from the exertion of boarding, but took charge and used his binoculars. The sea was not high, though it was blowing hard. Twenty-five minutes after he took charge the steamer struck. The night was dark and the weather "dirty." He subsequently stated that he recollected nothing after the first orders to port the helm, although evidence showed he gave orders to port on three distinct occasions. He had not been drinking and was absolutely sober. After the accident he collapsed, was taken home and put in charge of his physician. He was fifty-nine, with a hypertrophied heart, high blood pressure and arterial sclerosis. His urine contained both albumen and glucose. He was obviously myopic and did not have a satisfactory color discrimination. The accident was due, not to his negligence, but to his physical condition and his ocular deficiency.

Syphilis and Longevity are considered by Dr. James Nevins Hyde (*Medicine,* April, '05), who finds that this disease like variola and tuberculosis may destroy life. This does not coincide, we believe, with the generally accepted opinion. When it is not fatal it may disfigure and mutilate the body to a hideous extent. In any event it is among the most dreadful scourges of humanity, requiring most intelligent and persistent handling on the part of both physician and patient. Inherited syphilis, working destruction of ovum, fetus and infant, has a fatality of between 80 and 90 per cent. The mortality, exceeding that resulting from any of the great plagues of the race, is due to the unprotected condition of the embryo. The percentage of fatality in acquired syphilis has not been accurately determined; it is probably less than two per cent. This fatality results less often from the actual invasion of the disease than from an entailed loss of resistance, by reason of which common agencies of disease produce serious effects, especially in the nervous system. The efficient factors in the production of these effects are fairly well understood—chronic alcoholism, long-continued tobacco narcosis, extreme fatigue, stress and strain, due to severe affliction or business anxieties, the malnutrition that may result from poverty, and the like. If any of these "efficient factors" are absent, the treatment may result brilliantly in perhaps 80 per cent, of acquired cases. The damage wrought by syphilis is not to be measured solely by its fatal issues. The lowering of the standard of average health induced by the disease, the lesions in the skin, bones, testes, liver and other organs, and the moral effects of a disease popularly considered "loathsome" undoubtedly affect the bodily functions, "pave the way for the inroads of other toxins, and possibly lay the foundation for mental degeneration, alienation and even suicide."

Salt as a condiment is considered by the *Lancet* the commonest of all, and yet man practically stands alone amongst animals as a regular consumer of it in the more or less pure state and as a definite adjunct to his food. It is present in most natural food-stuffs, but the amount in the majority of cases would not appear to satisfy man's needs or he would not instinctively add more. Moreover, salt, besides being a condiment, possesses solvent properties which, besides "drawing out" the flavor of foods, facilitates the absorption more particularly of proteid and thus increases tissue metabolism.

The Surgeon's Heart was evinced in the following anecdote from *The St. James Gazette.* A poor man had been treated by his club doctor—a busy, overworked, good-hearted fellow—for glandular enlargements in the neck. The patient came to London where he met a St. Thomas' Hospital surgeon who told him: "You come up to the hospital, you've no glandular swelling there." The case proved one of malignant growth of the thyroid. He consented to operation and Sir William MacCormac took him in hand. "The case was as bad as it possibly could be, and the faintest fraction of error would have meant certain death; but the operation was perfect, one of those performances of which we laymen never dream, but which these inspired giants in life-saving at the hospitals are accomplishing every day of their splendid lives. Early next morning the patient was gently aroused from sleep. He opened his eyes and saw the strong, kindly face of a man beaming in delight over him. It was the great and wealthy surgeon who had left his bed before six o'clock that bitter morning to come and see this poor, friendless man. The patient is a hale man to-day, and in his part of the world they regard St. Thomas' Hospital as a temple of miracles far more awe-inspiring than any holy well." It is certainly pleasant to see the efforts of the surgeon so gracefully appreciated in the lay press.

The diagnosis of prostatic obstruction should be made in the simplest possible manner (Parker Syms, *Jour. A. M. A.,* November 5, '04). The history should be carefully considered. No examination beyond palpation of the prostate through the rectum should be made, and determination of residual urine by careful introduction of a flexible catheter. Syms considers the use of the cystoscope a thoroughly unwarranted and dangerous procedure; he would not use metal catheters. He operates when there is frequent urination to the exhaustion point, when the use of the catheter is absolutely necessary, when the patient suffers from a marked degree of chronic cystitis, when a bladder stone is caused by the prostatic obstruction, when there is frequently repeated hemorrhage, or if pain is so great as to undermine the health. Syms does not do the Bottini operation and advises against suprapubic incision. He operates entirely through the perineum and through a small median incision. His patients are up in about forty-eight hours. The gauze packing is removed in about twelve to twenty-four hours after the operation, and the drainage tube at the end of forty-eight hours. He then permits his patient to remain out of bed. He has operated in this manner on thirty-four cases with two deaths.

X-Ray treatment of cancer as preferred to the use of the knife was discussed in Berlin at the International Congress called to celebrate the tenth anniversary of Roentgen's discovery. Lassar averred that he has had only three failures in this treatment for cancer in some hundreds of cases, but only where the growths were not deep seated. The ray was ineffective for large growths.

Dr. Robert Koch had a caravan of some seventy men when visiting Morogono in German East Africa. The natives called him "the great medicine man" and were astonished at the size of his expedition, which had for its object the study of the plague and of a fever which is communicated by the papasi or bedbugs; it is not deadly but makes invalids of the victims for weeks. Neither is it deadly, by the way, in civilized countries, though it has been known to incapacitate individuals through whole seasons.

Married men live longest, not in accordance with the perennial minstrel joke "because it only seems longer," but by scientific proof. The mortality among bachelors from 30 to 45 years of age is 27 per cent.; while among married men of the same age it is 18 per cent. For 41 bachelors who attain the age of 40 years, there are 78 married men who reach the same age. The difference is still more striking in persons of advanced age. At 60 years of age there remain but 22 bachelors to 48 married men. At 70, 11 bachelors for 27 married men and at 80, 3 bachelors for 9 married men.

The bill to place osteopaths on an equal footing with regular physicians in New York state has failed of passage, but it is quite evident, from their pernicious activity, that something like eternal vigilance is the price the profession will have to pay if these shrewd manipulators are to be kept permanently from being established.

The tuning fork has been used as an instrument of precision in physical diagnosis by R. N. Wilson (*Medical Notes and Queries*), who considers it of great assistance in discriminating between a cavity and other conditions simulating it. If this instrument be set in fairly rapid vibration and the end of the handle be placed lightly upon the thorax, and then be made to approach the bell of the stethoscope which rests upon healthy lung tissue, the note will go through a striking series of changes. In passing the fork from normal to consolidated tissue the pitch rises and the note becomes much clearer, and may indeed become evident for the first time. If it next passes over a superficial cavity the note becomes clear, sweet and musical. This character is never simulated by any other condition.

Some Chinese medicines are described by S. Synge (*Dublin Jour. of Med. Sc.*, March, '05). Many absurd beliefs recorded in the Chinese Materia Medica are set forth. Sulphate of iron is said to go at once to the liver and gall bladder and is good when the liver is inflamed; it is also good for cough, epilepsy, hematuria, etc.; it is said to be obtained from copper pits and to be the fluid part of the copper, thus enabling it to go to the liver. The color of the best preparation should resemble the inside of the mouth of a green frog. The human placenta is said to cure weakness, thinness, wasting diseases, madness and epilepsy; it should be taken from a healthy primapara, washed in a running brook, then boiled, after which it may be toasted or powdered, or eaten after the boiling with rice. Powdered tiger bones are thought to give strength. The urine obtained from the white horse, the ass and children is given in fevers. Another absurdity recorded is that when a placenta does not come away it goes up into the woman's chest and suffocates her. It is also believed that the milk comes into a mother's breast with the incoming of the tide.

Alcohol as food and in disease. This perennial subject is again taken up by two men of much authority, both in the *Medical News* of April 22, '05. R. H. Chittenden finds that while alcohol lowers the rate of proteid katabolism, it increases notably the output of uric acid and purin bases. The increase of uric acid is due to change in the rate of oxidation in the liver of uric acid of exogenous origin, or else there is change in the rate of production of uric acid from the precursors of uric acid contained in the food. There is also the possibility of other oxidative processes in the liver being affected. Alcohol, therefore, presents a dangerous side wholly wanting in carbohydrates and fats. The deleterious influence is everted only in connection with exogenous uric acid; hence, in many diseases in which a non-purin diet is used the urates would not be increased. G. L. Peabody considers alcohol in disease.

This fluid may penetrate the deepest layers of the skin, thus disinfecting it. By bringing about local changes in the blood supply it affects inflammations not entirely superficial. Compresses soaked in alcohol and covered by gutta percha and cotton wool have given great relief in peritonitis, neuritis, phlebitis and herpes zosher. By its persistent use suppuration can often be averted in buboes, mastitis, carbuncles, etc. When the epidermis is thin, as in children, or over the scrotum, etc., one must be careful of sloughing. It is valuable in carbolic acid poisoning and in external burns by this agent. In acute fevers it is sometimes worth more than all the cardiac stimulants, since fever does not interfere with its usefulness. There is little danger of engendering the alcohol habit during fever; but this danger increases progressively during convalescence.

The title "doctor" moves the *Pharmaceutical Era* to observe that "no title is better than that which it represents. 'Doctor' as applied to medical men does not convey the sense of dignity or learning to any remarkable degree, because the title is exploited by a dozen or more classes of men who possess neither the one nor the other." The excellent journal to which we refer is moved to this opinion by a proposition to make all pharmacists doctors. "Honor must come spontaneously if it is to be worth having, and recognition of merit by the public in this way is equal to that conferred by any institution of learning or introduced by any set of resolutions." In some countries, especially in South America, the situation is certainly misleading. There even lawyers are called doctors.

Saddle noses restored. Dr. Sommers of Washington, D. C., reports some excellent cosmetic results in the treatment of these cases by the injection of modified animal fats. The method used is similar to that of the paraffine injection, that is, into the subcutaneous tissue and used quite hot. The operation can be made almost painless by means of cocaine spray. Should any swelling result, cold compresses, or some simple lotions will soon relieve. This operation should not be relegated to the charlatan!

Diphtheria antitoxin in Goitre has been used successfully by R. T. Legge (*Jour, A. M. A.*, April 22), in at least three cases. In the first, a typical exophthalmic goiter, the patient, while suffering from a diphtheritic attack, was treated with antitoxin with the usual good results. Besides these, however, there was a gradual disappearance of the goiter and of Graves' disease of eight years' duration. A year has elapsed with no return of the symptoms. Since then Legge has experimented with antitoxin in two cases, one of simple goiter, the other of typical Graves' disease, with like good results. The matter is certainly one for further investigation.

Portland next. The meetings of the *American Medical Association*, like Christmas, come with annual regularity; and many physicians anxious to get out of the rut for a brief season may now look Northwestward in the confident expectation of enjoying a profitable and agreeable jaunt. The round trip rate that will be made from Chicago is $56.50, which is five dollars less than the regular one-fare rate. It is expected that the passenger associations will make corresponding one-fare rates for points east to the Atlantic. An option will be given of returning by a different road. One may go by the Northern Pacific and return by the Canadian or any of the southern or central routes. Stop-over privileges of ninety days will be accorded at important points. One's route should be very carefully planned out in advance. The rates are open also to friends and families of physicians. Trains are being made up to reach Portland on July 10th. Mr. H. C. Bowers has charge of the local bureau for hotel accommodations in Portland; to him one should write early. Every American physician, if he have not done so, should visit this wonderful part of our country. The Lewis and Clark Exposition will give a fine opportunity to study its industry and products. There could be no better summer vacation.

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"Subcutaneous diseases" forms a new specialty, of which Prof. Angagneur occupies the chair in the Lyons School of Medicine.

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An International Congress on Tuberculosis will be held in Paris, in October of this year. Our own National Association for the Study and Prevention of Tuberculosis will be represented.

The cultivation of rubber is being taken up seriously in Ceylon. In one month some 60,000 trees of the Para and Castillon varieties were planted in the island, states the *Journal of Tropical Medicine.*

A Section on Medical History has been established in the College of Physicians of Philadelphia. At its initial meeting papers were read entitled "Esculapian and Modern Health Resorts Compared," by Dr. Roland G. Curtin, the chairman of the Section; and "The Most Eminent American Physician of European Birth," by Dr. A. Jacobi.

When everting the upper eyelid the physician should direct the patient to look down. He should get accustomed to using the thumb and forefinger of one hand for eversion, turning the lid upon the tip of the thumb of the other hand, which enters the orbit over the eyeball. This is better than using a pencil or other object for eversion; besides one's thumb is always handy.

E. Abbe, the inventor of the condensor, died recently at Jena in his sixty-fourth year. Besides this invaluable adjunct to the microscope he was the inventor of numerous improvements in instrumental optics; and the now thriving science of bacteriology owes its beneficent prominence largely to his genius and activity. He was some forty years connected with the Zeiss factory, and was during much of the same time professor of astronomy and meteorology at Jena.

The protective power of vaccination was strikingly shown in the case of a nursing mother who contracted confluent smallpox; she was taken to the hospital with her seven months' baby. The infant had been successfully vaccinated fourteen days previously; it was not weaned, but was nursed by the mother throughout her illness, and was handled daily by about fifty other patients in various stages of smallpox; it left the hospital in perfect health (H. J. Neilson, *Brit. Med. Jour.,* April 8, '05.

Baden-Baden's Radium Find is reported by the United States Consul at Kiel. The slime or residuum from the thermal springs is declared to contain very powerful radium, "forty times more powerful" than that found in the residuum of cold water springs or in mud baths. Previously this Baden-Baden residuum was discarded as worthless, but it is now carefully collected and examined in laboratories. Perhaps here is to be found the healing proprieties ascribed to these springs. This slime may moreover be found more precious than gold ore.

Medicated ointments for the nose have been studied by A. W. MacCoy (*The Laryngoscope*) who has found that surgical procedures will not entirely supersede the employment of drugs; that washes tend to be harmful especially in the winter months; that the employment of soft ointments obviate such risks as follow the use of washes and at the same time hasten a cure; that the availability, convenience and adaptability of medicated ointments furnish a rational procedure, and that ointments should be prescribed in collapsible tin tubes as a protection against contamination.

A physician was sued in Millstadt, Ill., for $2,500 damages for the reason that he did not change his clothing when he visited a patient. The plaintiff claimed that while treating his wife for pneumonia the doctor was also treating several smallpox patients, and that he went directly to the bedside of the pneumonia patient after attending the infectious cases, without changing his clothing or taking other precautions to prevent infection. As a result of this carelessness it was claimed, the plaintiff's wife and his five children contracted the smallpox and were ill for several weeks.

The Insane of New York State are being well cared for, states Peterson (*N. Y. Med. News,* April 22, '05), who describes the now excellent facilities for scientific research, the segregation of the tuberculous insane, the establishment of training schools for nurses for this special work, and the almost entire abandonment of restraint and solitary confinement in the State's asylums. Peterson emphasizes that the superintendent of an insane asylum should be an alienist who would be a masterful clinician and who would have sufficient power to engage excellent administrative officials, distinctly as subordinates.

Adenoids in the adult are considered by D. M. Barstow (*N. Y. Med. Jour.,* May 6, '05) to be much more common than is generally supposed. The condition is a frequent cause of nasopharyngeal catarrh, with dropping back of mucous and frequent clearing of the throat. It is also a frequent cause of nasal obstruction, and is the causative lesion in some cases of apparent hypertrophic rhinitis. A thorough examination of the nasopharynx should be made in all cases of ear disease and of pulmonary tuberculosis. The treatment is not difficult and the results are often brilliant and rarely unsatisfactory.

Peruvian Balsam in the treatment of wounds is extolled by Burger (*Münch. Med. Wochenschrift,* No. 48); and our experience decidedly corroborates his statement. He has had particularly good results with cases of crushed fingers contaminated with oil and dirt. Cleansing as thoroughly as possible with bichloride solution is followed by applications of the balsam, the dressings being changed every second or third day. These good results are perhaps due to the cinnamic acid in the balsam. The dressings do not stick. Ulcers of the leg do well under this treatment. And abscesses heal up rapidly after incision and evacuation by means of injections of Balsam of Peru in Castor Oil (1 in 8).

Nasal Disease as a Cause of Headache is very ably discussed by A. L. Whitehead (*Brit. Med. Jour.,* January 28, '05). In all cases of persistent headaches careful rhinological examination should be a routine practice, particularly as the patient may give no subjective symptoms referred to the nose. Suppuration in the accessory sinuses; marked nasal obstruction, constant or intermittent; spurs; deviations; and hypertrophies; pressure of enlarged middle turbinates upon the septum, especially upon its tubercle—all such conditions may cause headache. The author doubts if headache can be produced by a nasal condition which does not give rise to discharge or to obstruction to normal nasal respiration.

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Ichthyol in Mycosis Fungoides. Several remarkable cures in mycosis fungoides are reported by Menahem Hodara, of Constantinople. Ichthyol, 7½ to 15 min., given daily for three or four months, caused almost complete disappearance of the unsightly tumors. In addition, the patient received ichthyol locally and sodium cacodylate internally. It is true that in many instances this skin disease tends to disappear spontaneously, yet in one of the cases reported the condition had continued unabated for five years, so that the cure must be ascribed to the ichthyol.—Monatsh. f. prakt. Dermat., 1904, No. 38.

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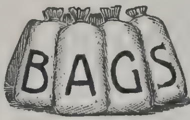

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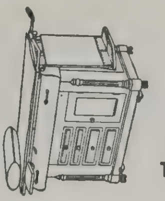

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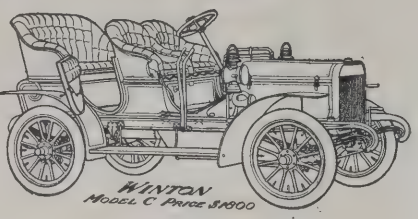

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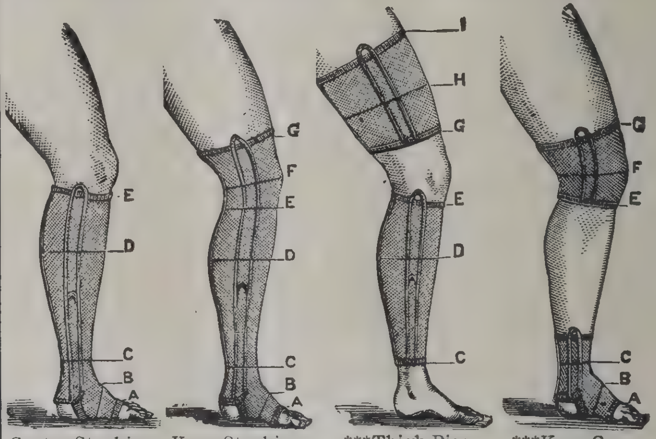

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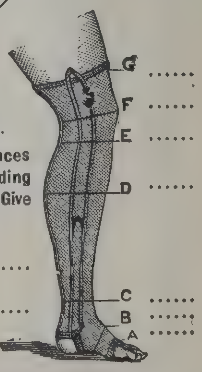

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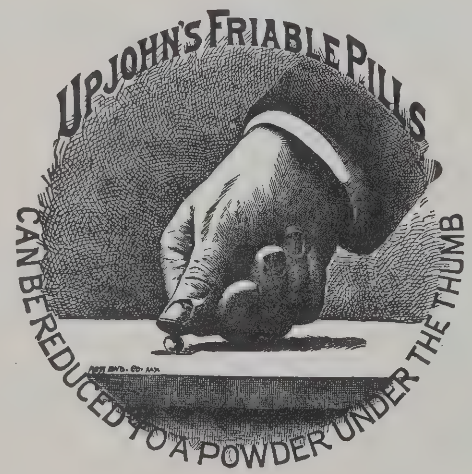
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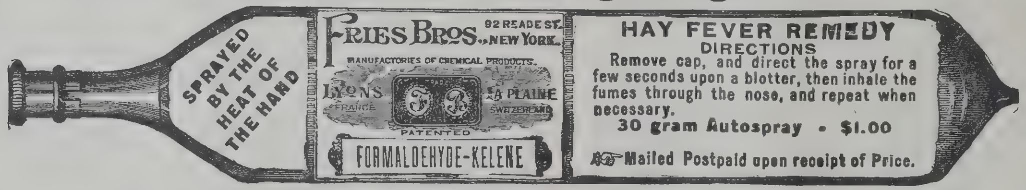
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Ash	2.24
Acid, calculated as sulphuric	3.13
Acid sulphurous	none
Acid salicylic	none
Saccharin	none
Coloring matter	nothing abnormal
Deviation of polarimeter, before inversion	+2°44′
" " after inversion	—2°16′
Coca bases, combined, in grams, per litre	0.220

(Signed) Girard, Chemist,
Director Municipal Laboratory.
Paris, France, March 24, 1900.

A DIFFUSIBLE **TONIC STIMULANT** ADVOCATED IN

Convalescence=Wasting Diseases=Neurasthenia

AND ALLIED CONDITIONS.

UNITED STATES ANALYSES

Under Pure Food Commission of Ohio, State Board of Health of Pennsylvania and Illinois Pharmacy Board, confirm examinations made in France, Germany, Russia and elsewhere, and demonstrate VIN MARIANI absolutely pure.

WE WILL DEEM IT A PRIVILEGE TO ANSWER INQUIRIES FROM THE MEDICAL PROFESSION AND WILL SEND DETAIL LITERATURE ON REQUEST.

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52 West 15th Street, New York;
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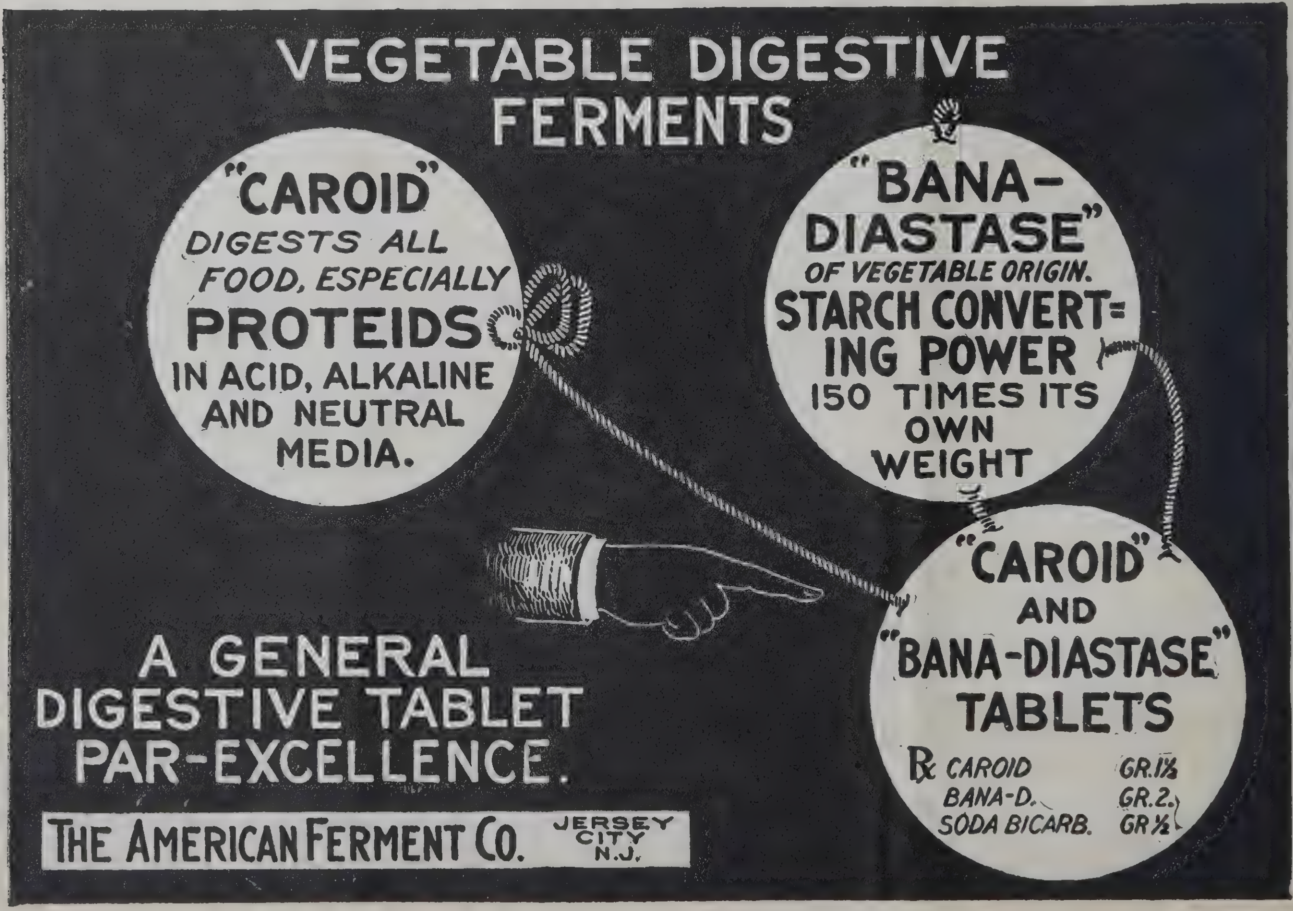

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"CAROID" DIGESTS ALL FOOD, ESPECIALLY PROTEIDS IN ACID, ALKALINE AND NEUTRAL MEDIA.

"BANA-DIASTASE" OF VEGETABLE ORIGIN. STARCH CONVERTING POWER 150 TIMES ITS OWN WEIGHT

"CAROID" AND "BANA-DIASTASE" TABLETS

℞ CAROID	GR. 1½
BANA-D.	GR. 2.
SODA BICARB.	GR. ½

A GENERAL DIGESTIVE TABLET PAR-EXCELLENCE.

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ACETOZONE

WIDELY USEFUL IN

SUMMER DIARRHEAS

AND ALL OTHER

INFECTIOUS ENTERIC DISEASES.

ACETOZONE is the most remarkable of intestinal antiseptics—vastly more powerful than any other germicide that can safely be given internally. An aqueous solution of the strength of 1 to 1000 is capable of destroying within one minute any known disease-producing bacteria.

Supplied in ounce, half-ounce and quarter-ounce bottles; also in vials of 15 grains each, 6 vials in a box.

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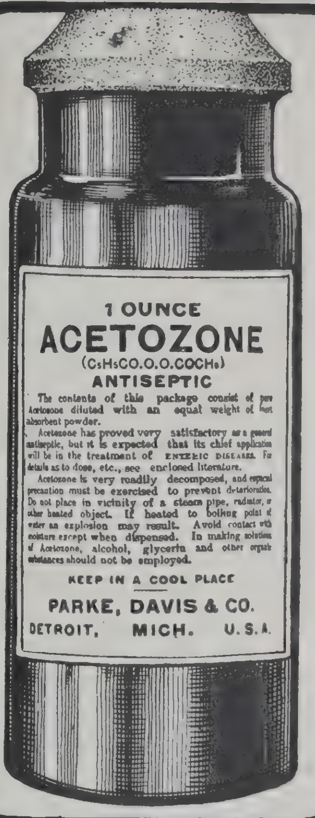

The contents of this package consist of pure Acetozone diluted with an equal weight of inert absorbent powder.

Acetozone has proved very satisfactory as a general antiseptic, but it is expected that its chief application will be in the treatment of ENTERIC DISEASES. For details as to dose, etc., see enclosed literature.

Acetozone is very readily decomposed, and especial precaution must be exercised to prevent deterioration. Do not place in vicinity of a steam pipe, radiator, or other heated object. If heated to boiling point of water an explosion may result. Avoid contact with moisture except when dispensed. In making solutions of Acetozone, alcohol, glycerin and other organic substances should not be employed.

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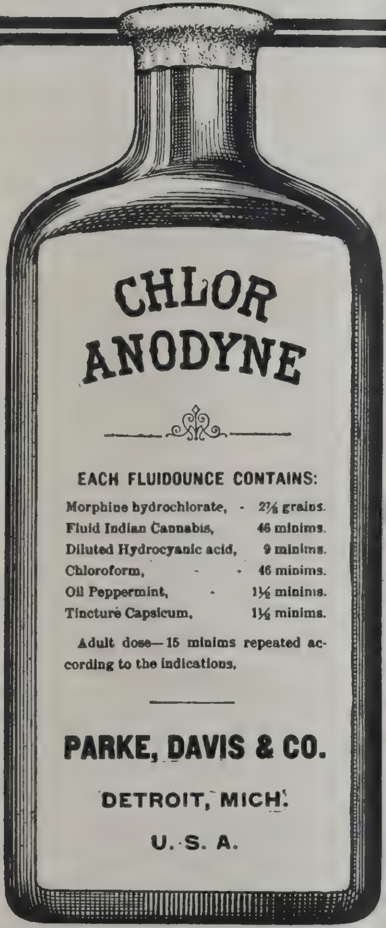
DETROIT, MICH. U.S.A.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EACH FLUIDOUNCE CONTAINS:

Morphine hydrochlorate, -	2⅞ grains.
Fluid Indian Cannabis,	46 minims.
Diluted Hydrocyanic acid,	9 minims.
Chloroform, - -	46 minims.
Oil Peppermint, -	1½ minims.
Tincture Capsicum,	1⅛ minims.

Adult dose—15 minims repeated according to the indications.

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PROMPT ANALGESIC.

CHLOR-ANODYNE relieves pain—especially pain in the stomach and intestines. It is invaluable in

INTESTINAL COLIC,
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dysmenorrhea, renal and biliary colic, and numerous other conditions in which the relief of pain is an urgent indication.

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A Most Palatable Cordial, Tonic, Digestive, Stimulant

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Dr. A. Robin. "I am a very warm partisan of **Pepto-Fer** which I often prescribe."

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Clinical Reports on Application.

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This will form a most satisfactory adjunct to the successful treatment of these cases, because it produces a depletion of the enteric and peritoneal vessels and stimulates the various plexuses, more particularly the solar and hypogastric, relieves the pain, the tenesmus, the muscular rigidity and obviates the necessity for the administration of opiates and powerful heart stimulants.

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As an application to relieve the dermatitis caused by contact with poisonous plants as well as that caused by exposure to the sun, Antiphlogistine cannot be surpassed.

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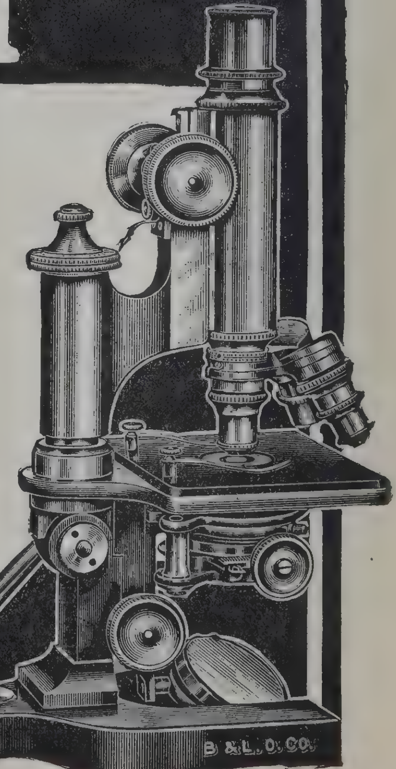

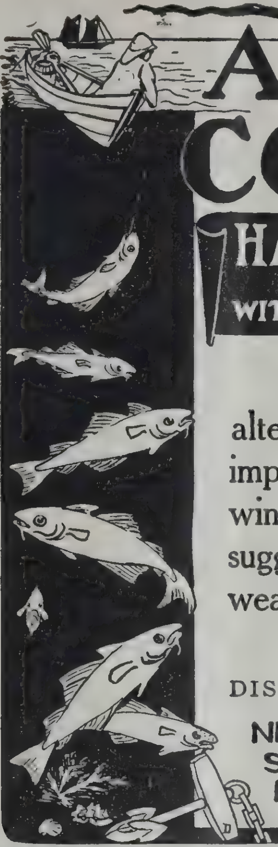

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Absolute alcohol (by weight)	6.67
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Evans' Ale and Stout are sold by all Ale Sellers Everywhere.
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IN THE TREATMENT OF
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to make the other kind of hypodermics—the kind that dissolve slowly, incompletely; that clog up needles and cause abscesses. The kind of hypodermics we make the busy man wants—the kind that dissolve at once and that give quick and full dose results.

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Fourth of July Excursions, 1905. For the above occasion the Southern Railway will sell on July 1st to 4th, inclusive, round trip tickets from Washington to all points on its lines at rate of one and one third fares for the round trip. Tickets limited to return to July 8th. For further information address Alex. S. Thweatt, Eastern Passenger Agent, 1185 Broadway, New York City.

Pepto-Fer Jaillet. This chloro peptonate of iron is a combination of peptone and perchloride of iron, prepared according to the original formula of Dr Jaillet. Attention is called to the fact that this preparation of iron is very dialyzable, 10 to 20 grammes of its solution being absorbed by the rectum very rapidly without causing inflammation or proctitis. Iron is then detected in appreciable quantities in the urine. The presence of iron in the urine is proof positive that the chloropeptonate is absorbed by the intestinal mucosa and passes into the serum of the blood. This preparation is a most palatable digestive, tonic, stimulant, liqueur used with great success in cases of anaemia, chlorosis, bad digestion and general debility. Physicians are requested to write for clinical reports to E. F. Poix, 324 Lexington ave., New York.

In the wasting diseases, as well as in rickets, scrofula and marasmus, it is of the greatest importance that a remedy be selected which will quickly check the pathological condition, and restore the organism to the normal without producing digestive or other functional disturbances. Cod liver oil has always stood first in the category of remedies calculated to bring about this desirable result, but unfortunately its peculiar odor and taste are features which are quite often objectionable to patients. Hagee's cord. ol. Morrhuae comp. is a preparation, containing all the essential therapeutic properties of cod liver oil and combined with tissue building chemicals (Hypophosphites of Lime and Soda) and aromatics, which renders it agreeable to the palate.

Resinol in Pruritus

RESINOL Is the specific for all forms of pruritus. There is nothing that produces such immediate cessation from its pain, burning, and intolerable itching. Resinol Soap possesses the healing qualities of the Ointment, and is invaluable for cleansing affected parts.

I tried your Resinol Ointment on myself. I had suffered from pruritus ani, or marginal eczema, for 25 years, and had tried many remedies without any relief, until Resinol proved soothing and stopped the itching instantly.
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Resinol Ointment is the first local application I have found, that has given lasting and gratifying results in the treatment of pruritus vulvae. DR. GRACE WINTERSTEEN, Harrisburg, Pa.

I have used Resinol Ointment in my practice ever since it cured me of a severe case of pruritus of 15 years standing.
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I have been prescribing Resinol Ointment for quite a while with very happy results, and find it excellent in all forms of skin diseases, also in many troubles of the vagina and rectum. Especially is it appreciated by the physician and patient in pruritus. W. E. REYNOLDS, M.D., Hopkinsville, Ky.

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THE IDEAL ANÆSTHETIC

Excels Nitrous Oxide in Every Respect

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ABSOLUTE SAFETY
RAPIDITY OF RECOVERY
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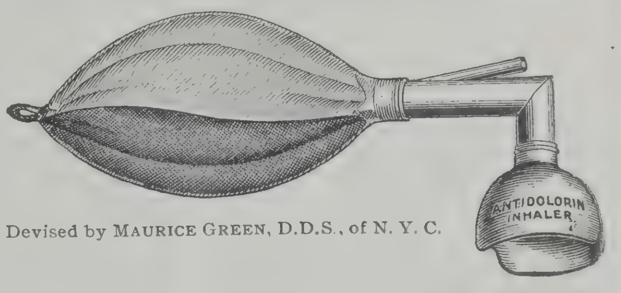

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A
REMEDY
FOR INDIGESTION
AND SICK STOMACH.

A powder prescribed in same manner, doses and combinations as pepsin (5 to 10 grains) with superior results.

A standard remedy for over twenty years.

A specific for vomiting in gestation.

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DEFENSE of MALPRACTICE SUITS IS GOOD

But the Busy Doctor also wants **PROTECTION**

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DUNBAR'S ANTITOXIC SERUM TREATMENT OF

Rose Fever **HAY FEVER** June Cold

SELECTIONS

The U. S. Civil Service Commission announces an examination on July 12-13, to fill vacancies in the position of Hospital Interne, under the Isthmian Canal Commission, on the Isthmus of Panama. For particulars, address the Commission, Washington, D. C.

A prominent physician says: "Your products are O. K. I prescribe them every day, especially Sal-Codeia and Syrup Codeia Comp. They are all right, because they have had a thorough trial by me personally. Wish you continued success."

Thiosinamine for Scar Tissue and Stricture. Stimulated by the many favorable reports on the use of thiosinamine whereever extensive scar tissue has formed, Dr. Mellin employed this remedy in a severe burn of the second and third degree which had healed with marked disfigurement. The left arm was held at a right angle and could not be extended, the fingers were stiff, and the mouth could hardly be opened. All in all, 2.3 Gm. (35 grn.) of thiosinamine were given in 25 injections. The scar tissue softened remarkably and the patient could be discharged completely cured.—Deut. med. Woch., 1905, No. 5.

"What is genuine shall posterity inherit." — Goethe. Notwithstanding that a host of imitators have sprung up to reap the benefit of the reputation created by Hayden's Viburnum Compound as a remedy par-excellent in the treatment of diseases of women, this valuable product has steadily increased in popularity and has met every requirement of the most exacting clinician. On the nervous system it has a sedative effect. In delayed labor, owing to a Rigid Os, it is particularly efficient and preferable to chloral as it is not a narcotic, and in post-partum work it enjoys all of the advantages of ergot without the dangerous actions of the latter drug.

Summer Diarrhea in Children. A great many physicians begin treatment by removing the irritating substances from the alimentary canal by giving a good dose of castor oil, salts, rhubarb, or, by giving copious injections. If the latter plan is adopted, a large amount of water should be used, so that the entire lower bowel can be thoroughly washed. I usually add two or three tablespoonfuls of Listerine, and I believe that it meets every indication better than any other preparation There is no doubt in my mind that the anriparasitic and anti fermentative preparations are productive of the best results. Of the numerous preparations of this character that are now on the market Listerine has by far the largest number of advocates, and I believe from quite a large experience with it that it justly deserves the recognition and endorsement that the medical profession has so universally given it.—E. C. Register, M D., Charlotte, N. C.

Where it is desired to inhibit the development and assist the natural elimination of micro organisms by stimulating the protective phagocytes of the blood, the following formula will be found a good one:

℞ Quinine glycerophosphate	.025 milligram
Creosote benzoate...................	.05 centigrams
Eucalyptol benzoate.......	.025 milligram
ft. capsulæ i	
Sig. ' Kugloids"	(Mitte 100)

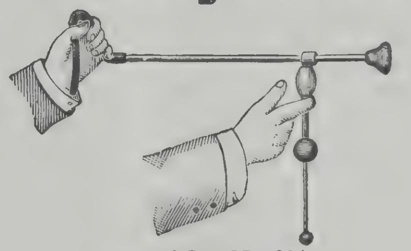
In febrile and other acute symptoms, the dose is one every hour until they subside and from six to eight Kugloids can be taken to advantage for months at a time, since they are well tolerated by the stomach. That the benzoates of creosote and eucalyptol are really taken up in the blood stream can be proved by an examination of the urine, which gives the usual phenol reaction with any ferric salt, as well as by the odor of eucalyptol given off by respiration. As a prophylactic and palliative, Kugloids, as these capsules are called, are also useful, especially in coryza and the early stages of influenza, in bronchial catarrh and in all inflammatory conditions of the mucous membranes of the air passages.

The antithyroidin of Moebius, a serum obtained from the blood of thyroidectomized goats, has given very promising results in the hands of N. J. A. F. Boerma, gynecologist in Groningen. In one case the tumor of the thyroid disappeared entirely after daily doses of 1 Gm. (15 min.) given for one month. Shortly after the patient gave birth to a healthy child and remained permanently free from symptoms. — Aerzt. Rundsch., 1905, No. 1.

Many reports are now to be found in literature on Ficker's typhoid diagnosticum, and no doubt remains that it is a valuable and practical method, in the hands of the physician, for diagnosing typhoid. G. Flatau and A. Wilke have made a large series of controls with live typhoid cultures and have found the Ficker just as reliable as and more practical than the old method. It can therefore replace the latter, and every physician will now be able to resort to the reaction in his office. —Muench. med. Woch., 1905, No. 3.

Glycosal, a combination of glycerin with salicylic acid, promises to be a very valuable substitute for the salicylates in rheumatism, according to C. Schober. The drug was employed in acute cases with temperature, in subacute and more chronic cases without fever, and in exudative pleurisy, and in all instances the full effect of the salicylic acid was obtained without any of its bad after effects. It should be emphasized particularly that the perspiration is not excessive and that recurrences were not at all frequent. The only disadvantage noted was the somewhat disagreeable taste, which can, however, be masked by giving the drug in wafers. The heart was not affected in a single case treated. Glycosal may also be employed externally in the form of a 10 per cent. solution or an ointment. A distinct reaction for salicylic acid will be obtained in the urine after such applications, showing that absorption is very active. —Inaugural dissertation at Friederichs University, Halle, Dec. 15, 1904.

A Simple Help for Many Ills



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Relieves and cures all pains. Headaches, Hayfever, Catarrh, Nervousness, Indigestion, Sprains, Lumbago, Torpid Liver and Kidney Troubles.

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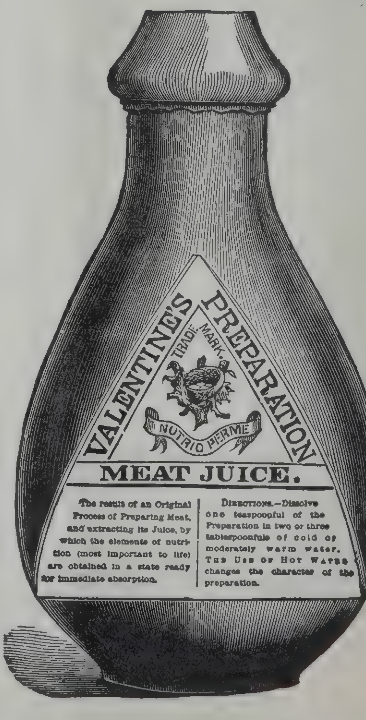
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SOME PHASES OF CONTRACT WORK BY THE PHYSICIAN.

BY C. S. MILLER, M.D.,
President of the Toledo, Ohio, Microscopical Society.

IF I were to take the title as a text, and treat it etymologically, I would elaborate first on the principal word—"Work." I would show that perhaps no word in the language has a greater variety of forms and applications. It is used as a verb, transitive and intransitive in a multitude of senses; as a noun in as many more, while its combinations as an adjective and in the form of compound words are still greater. Derived from the Anglo-Saxon W-y-r-c-a-n or w-o-o-r-c, it is the one word which comprises all the activities of the world, and even of the universe, for we are told that in the creation God ended his *work* and rested the seventh day, and Jesus Christ says, "My Father worketh hitherto, and I work."

Work is superficially supposed to be a penalty imposed upon the human race for disobedience and transgression of the laws of Eden, but the foregoing shows that this is not true, as work was necessary to form the garden in which the transgression occurred.

In the sense in which we now use it, work is a service rendered by one individual to another, and if it were a necessity in the beginning of all things, much more has it become necessary by the progress of civilization, and the multiplicity of employments resulting. Just as the differentiation of embryonic cells multiply the varieties of tissues and the functions resulting from them and their combinations.

There is no question, then, as to the necessity of work, but there may be as to the necessity of work as limited or qualified by the adjective, "contract," as performed by the physician. Our profession excludes the practice of mere mechanical or routine labor, as do also the professions of law and theology, and these three are generally spoken of as the "learned professions." This last distinction alludes to the time of study necessary for their successful practice, and does not refer to the first distinction, viz., the exclusion of mechanical or routine elements in the performance of their various duties. That contract work is partially at variance with this element of our profession, must be admitted, as it is in the practice of law, and as it is even more incongruous in ministerial life or the practice of theology. The very word, contract, a union of the Latin "con," meaning *with* or *together*, and "traho," *to draw*, means a narrowing or bringing together, a limitation of the conditions and principles to which it is applied. The accent placed upon the last, instead of the first syllable, and pronounced con-tract′, changes it from an adjective to a transitive verb, with exactly this meaning.

The practice of these three professions is supposed to be free and untrammeled from any such limitation or narrowing. The foundation stone in each is *truth*, and liberty of thought and action follows (as natural and inevitable results), the promulgation of truth, and there is a limitation of thought and action in the performance of contract work or the forming of medical contracts. We do not hold that a physician is limited in his powers of diagnosis, judgment or treatment, by performing a service under contract. Such a position would be unreasonable and untenable, but we do believe that there is a limitation of his personal and professional liberty, and in some cases a strong influence is exerted on his conclusions and their results by the condition of the contract. This can best be shown by taking examples under different forms of medical contracts.

A physician is employed by a beneficiary order, or fraternity, so called. He may be perfectly truthful and conscientious in his reports of examinations for membership, but if he tells "the truth, the whole truth, and nothing but the truth," he will soon find that so many rejections occur, that the order, or rather the branch of it which he is serving, will soon have no use for him as an examiner, because of the limitations of its membership and its apparent prosperity. Disappointment and bad feeling is also engendered, and not only does he lose his position as examiner, but the hatred and malice incurred, though it may be thinly veiled by the cloak of fraternalism, is ever ready to stab him in the back, or set a pitfall for him in the dark, in his regular professional life. What is the natural result? He remains perfectly truthful and conscientious only long enough to make this discovery, or he makes his own judgment the sole criterion on which the merits of the case rests, and thus reports it. Of the two horns of the dilemma, the latter is by far preferable, and I have gone so far in choosing it, that I have questioned whether a supreme medical examiner is not a superfluity to any order or society, and in passing, it is well to note that this is one of the greatest weaknesses of fraternal life insurance. The rush for membership by the branches of the order brings "new blood" of such an unhealthy character into the parent stem, that before the tree is itself aware of it, and while it still presents a flourishing appearance to the outside world, it is becoming shaky and rotten in every part, and soon topples and falls, at least partly as a result of contract work by its examiner, who is hampered, not so much by the contract itself, as by its environments. Suppose the same contract is carried still further, and the examiner is made physician of the order, with his compensation fixed at so much per capita of the membership. At best it is a lottery in which he takes his chances on getting even a meagre compensation for the service rendered. A few cases of continued fevers or any prolonged sickness, or one or two cases in major surgery, if that is included in the contract, will afford opportunity for service sufficient to balance the compensation for a year, the time usually specified. He may also be called to treat a member through a long sickness, whose case he would have received through some of the regular channels, and at regular rates. He may even be the family physician of such a case, and then be obliged to treat him through, not only one case of sickness, but during the whole year for the magnificent sum of one dollar, more or less.

One of the prominent physicians of the city who accepted such a position on the representation of a brother physician that a similar contract had netted him an average of $2.00 a visit, soon found himself at the bedside of many of his regular patrons, and it is no wonder that he remarked that "it sawed off at both ends," and sent in his resignation before the end of three months. Other physicians have given me the testimony that it does not pay to do contract work of this kind, but such is the spirit of competition and commercialism in these latter days, that there is always a great scramble for these positions, when the appointments are made, and all the questionable and shady methods known to politics are marshaled to the help of the deluded aspirant.

There are, of course, some advantages to be gained from these positions in legitimate and regular channels, such as the extended acquaintance afforded, the occasional family practice which it leads to, etc., but we firmly believe that these are more than overbalanced by the disadvantages mentioned.

Next akin to fraternalism contracts, are those made with old line insurance companies for examinations, yet there is a great difference. The report in this case is usually based entirely upon facts as discovered, but not always, of necessity. For example, the examiner may "stand in" with the agent, *i.e.*, he may receive a percentage of the first premium or even of the renewals for "working up" a case, or finding individuals, who through the combined efforts of physician and agent, will be induced to take insurance. Of course, if the subject does not pass, the doctor-agent gets nothing but his examination fee, and it is more or less of a temptation to keep unfavorable points in the background, or unduly recommend the favorable aspects of the risk.

It would be folly to assert that this always occurs, or even that it does in a majority of cases, and it is a credit to the integrity of the profession that I have never known of the report of a case being "colored" in that direction, but the temptation for weak hearts is there just the same. Manliness and honesty *resist* temptation rather than avoid it, and this must be done in the regular channels of professional life, else there would be no need for certain clauses of the Hippocratic Oath.

These matters may be termed perquisites or emoluments of the position and these are carried to such an extent by some agents and companies that favored physicians are able to carry large policies of several thousand dollars, the only premiums ever paid being their professional services as examiner:—certainly a fine thing for the individual, but an evident injustice to his fellows. Many other irregularities might be mentioned, but these will suffice.

Another direction in which medical contracts are formed, is in the medical and surgical care of the poor of our cities. Here again we find political principles (or unprinciples) dominating. The announcement by an infirmary board that the lowest *responsible* bid will be accepted with a tacit understanding that no bid under a certain amount will be considered "responsible" is a pointer. This excludes all the lower bids, no matter from how reliable or skillful a physician they come. Again an aspirant may say—Gentlemen of the Board, I control my precinct, or my ward, or my *race* vote and there will be a boomerang in the air for some or all of you if I am not appointed,—and he invariably "gets there."

These abuses of the principles of right and manliness are plainly due to the contract system. It would be unfair to give but one side of the subject, and as I am endeavoring to be impartial in the matter, it must be stated that there are advantages also in medical contracts, especially of the latter class, which cannot be overlooked. Charity work which is paid for from the the tender pockets of taxpayers should be procured at the lowest possible price for its "responsible" and satisfactory performance. Contracts with individual physicians systemizes the work and takes a great care off the shoulders of the infirmary board; but with the growth and multiplicity of the medical colleges in our cities, would it not be practical to have this work done through them, thereby giving the students in medicine the clinical advantage of such work. There are some cities in which this arrangement might be burdensome to the colleges from the disproportion between their number and the size of the city, as in Toledo, for example. But there are others in which the work would hardly go around, notably St. Louis.

Perhaps one of the most satisfactory forms of medical contracts is that made by Railroad Surgeons. This is also the form in which I have no experience, and so must be chary in my criticisms. It would seem that the surgical part of the work could be done with greater satisfaction than the medical, which is sometimes included, and in these the patients have been very free to express their inappreciation, to say the least, of the service rendered. The surgeon has the advantage, for a road will employ only those of unquestioned skill and of ripe experience, as many a damage case is doubtless averted or defeated by the standing authority of the surgeon.

There are other forms and varieties of medical contracts which are well worth discussion, but these will suffice for the present. Let us advocate the expulsion of the commercial spirit from our profession which leads to their formation, and hope for the day to speedily come when these trammels will be a thing of the past, and each man be on an equal footing with his neighbor, and all enjoy the perfect liberty of thought and action, which is the natural prerogative of the profession.

THE PRESENT STATUS OF YELLOW FEVER.

BY GEO. R. REYNOLDS, M.D.

PART II.

BURNELL, of Vicksburg, has attacked the mosquito theory; as it is the best presentation of that side of the question, I quote from it as follows:

"The Army Commission says that the insect is infected solely by stinging an individual suffering with yellow fever, and since yellow fever infection does not belong physiologically to the human economy, then the human supply must have been obtained from some extraneous source, and independent of the mosquito. In the consideration of the instances of recrudescence the most typical illustration is not alluded to—that of the recurrence of yellow fever on board of the U. S. S. 'Plymouth,' in 1879. This is one of the greatest moment since absolute data concerning it are obtainable. To those not familiar with it, a brief recital will be of interest. The Surgeon General of the Navy furnished the following account of the case of J. M. Keating, in 1879: 'On November 7, 1878, four cases of yellow fever occurred on board the vessel "White," lying in the harbor of Santa Cruz. These were removed to the hospital on shore, and the ship sailed to Norfolk. Three mild cases occurred during the voyage, and the "Plymouth" was ordered to Portsmouth, N. H., thence to Boston. At the latter port everything was removed from the ship, and all parts of the interior freely exposed to a temperature which frequently fell below zero, exposure continuing for more than a month. During this time the water in the tanks, bilges, and in vessels placed in the store room, was frozen. One hundred pounds of sulphur were burned below decks, this fumigation continued for two days, and the berths, decks, holds and store rooms were thoroughly whitewashed. On March

15, 1879, the ship sailed from Boston southward; on the 19th during a severe gale, the hatches had to be battened down, and the berth deck became very close and damp. On the 23d two men showed decided symptoms of yellow fever, and on the recommendation of the Surgeon the vessel was headed northward. The sick men were isolated, and measures adopted for improving the hygienic conditions of the vessel and crew. The Surgeon reported that he believed the infection to be confined to the hull of the ship, especially to the unsound wood about the berth deck, all the cases but one having occurred within a limited area; and that, while the "Plymouth" is in good sanitary condition for service in temperate climates, should she be sent to a tropical station, probably no precautionary measures whatever would avail to prevent an outbreak of yellow fever.'

"During the prevalence of an epidemic, especially after it had been well established, physicians devoted their energies to the relief of the conditions rather than to the discovery of the cause. Occasionally an outbreak of yellow fever followed the introduction of material from an infected centre, and the incident was reported as an item of interest and curiosity, rather than as evidence to support a theory which was already accepted, hence explicit data were not chronicled at the time, and therefore are not obtainable. In using such material, I stated that it emanated from medical men who recited the cases as occurring under their observation, and as such should receive consideration."

"In criticising the illustrative cases of long retained infection occurring on vessels, Bispham suggestively attributes the development of cases to the sting of mosquitoes, and supports his position by citing several instances of long-lived insects, notably one of Dr. Reed's mosquitoes which lived for seventy-one days, and several reported by Mr. Le Prince, which lived up to seventy days. Concluding, he says: 'On this reservation I have also observed some mosquitoes living sixty days after all breeding places have been destroyed. This last was particularly suggestive, as the insects were living in the open where they could be preyed upon by their numerous enemies. This statement concerning the longevity of the insect in the open is interesting and instructive, not only in that knowledge is acquired concerning the mosquito's life cycle, but in illustrating how delicately discriminating an investigator's acumen may be perfected. The recognition of individual "stegomyia" as they fly about the reservation, unmolested, save by their natural enemies, for a period of two months, is indicative of the powers of discernment most wonderfully developed. Dr. Reed's seventy-one-day mosquito had not gained publicity when my paper was completed. Since the fact is known I will modify my statement by saying 'the life of the mosquito, under ordinary conditions, has not been determined.' Prof. Geo. E. Beyer, of New Orleans, in a paper read before the Louisiana State Medical Society, on April 19th says: 'In no instances, however, was I able to lengthen the life of a female beyond a period of twenty-two days. In all experiments I resorted to all kinds of methods to test the longevity of the insects.' And again he says: 'How other investigators should have succeeded to keep mosquitoes on various substances for a month, and longer, is inexplicable to me."

"In considering the case of long retained infection on vessels, occurring thirty-nine, fifty-six, sixty-four and sixty-eight days after departure from an infected port, it is unreasonable to attribute the development of yellow fever cases to an insect's sting. Entomologists claim that in order to exist, mosquitoes must have water —being deprived of it they cannot live more than five or six days. Where water is accessible on ship-board, an opportunity for satiating her sanguinary desire is afforded the female 'stegomyia,' and since it is presumed the power to infect or not infect at pleasure is not possessed by mosquitoes, it is a most reasonable presumption that cases of fever would occur days before the destination is reached.

"Concerning my reference to the great number of cases of fever occurring in 1878, and at Edwards in 1897, Dr. Bispham says: 'He ends the paragraph by this sentence: "Is it reasonable to suppose it was accomplished by the mosquito?"

"That paragraph should have been taken in connection with the one just preceding it, concerning the cases occuring in Edwards which reads.: 'Is it reasonable to suppose that each case was the result of a sting delivered by a mosquito who had stung a case of yellow fever twelve days previously?'

"That is not particularly absurd. Consider the cases of malarial fever, the propagation of which, it is claimed, is dependent upon the sting of the 'anopheles' that develops its power to infect seven or eight days after its bite.

"Compare the number of cases developing during the same season that yellow fever prevails, with the number occurring of the latter disease, and see if some other agent than the mosquito is not responsible. In a report made to the British Medical Association, at its last session, it was claimed that 'about seventy per cent of mosquitoes fed on malarial persons became infected, and seven out of the eight persons bitten by these mosquitoes had the fever.'

"Not much greater percentages of infected 'stegomyia' have been reported, nor has its power of imparting infection greatly exceeded the 'anopheles,' while the period of developing the poison is four or five days shorter in the latter than in the former. Why then should the former be charged with cases of infection so very largely in excess to those attributed to the latter?

"In order to show that mosquitoes existed in sufficient numbers to cause the epidemics, Dr. Bispham says: 'Howard observed that 19,110 mosquitos were counted in one barrel.' This is an error. Dr. Howard observed that '19,110 eggs—larvae, and pupae—no mosquitoes—were counted.' How many different kinds or how many would have merged into images was not stated. It is agreed, however, that mosquitoes are sufficiently plentiful for all purposes, but they are not infected, and it is necessary for them to wait twelve days after biting a yellow fever case before they become dangerous. Many perils beset the life of a mosquito—besides, inhabitants of mosquito districts devise all kinds of ways and means for protection against the insect; it is therefore safe to assume that only a limited few of the female 'stegomyia' succeed, at the termination of their twelve days' probation, in impairing their poison."

"In the characterization of my statement: 'It can scarcely be conceived that the mosquito could harbor the germ for such a time,' (from one season to another) 'as a lack of information on the subject,' Dr. Bispham displays his inability to grasp the full meaning of the statement. Every one knows, who has lived in a mosquito infected country, and who has given the matter any thought, that insects must necessarily hibernate if they are to be perpetuated; and while mosquitoes disappear with the approach of cold weather, they re-appear with the advent of the balmy spring days. The two occurrences of a recrudescence of yellow fever related in my paper took place in the summer and fall, in Memphis, July 9, 1879, and in Edward, September, 1, 1897. Consider, if you can, a hungry 'stegomyia' curbing her appetite from three to five months while ample opportunity for indulging it is constantly afforded. If cases of yellow fever are dependent upon the mosquitoes' bite, where a recrudescence is noted (and we would have recrudescences very much oftener than they have been, if they are so dependent) the first cases would develop two weeks after the advent of the mosquito, for the hungry 'stegomyia' searches for blood, and will overcome many obstacles to get it, infection is derived from fomites, cases would not occur until warm weather is thoroughly established, and not then unless accidentally disturbed. Note the two sources of infection again: the one, very active, searches for the victim—the other remains perfectly quiescent until accidentally disturbed. Which is the most reasonable source? In accounting for the absence of yellow fever in Camp 'Joe Williams,' in 1878, he says: 'The reason of all this is that what few mosquitoes might be taken to the camp in the first place can find no suitable place to breed, as very little water is allowed to stand in cans about the ground, on account of the usual trouble in obtaining it, and therefore they are soon killed.' In the selections of sites for camps, the water supply is the main object and no place without a good supply would have been selected, and with more than a thousand people congregated together, a few cans would have been discovered by the little insects and since one little 'can' can 'raise enough to make it extremely unpleasant for one to approach within a hundred yards of it,' two or three little cans would raise enough to spread yellow fever. Breeding places, however, are unnecessary, for a recent observer states: 'On this reservation I have also observed some mosquitoes living nearly sixty days after all breeding places have been destroyed.'

"In conclusion No. 3, the Commission did not dogmatically state that twelve days must elapse, but it is inferentially so stated. They say: 'An interval of about twelve days—or more—after contamination, appears to be necessary before the mosquito is capable of conveying the infection.

"Conclusion No. 4 says: 'The bite of the mosquito at an earlier period after a contamination does not appear to confer any immunity against a subsequent attack.' Dr. L. O. Howard, in his valuable book on the mosquito, seems to have construed these conclusions as I did, for he says—and Doctors Reed, Carroll and Agramante have demonstrated that the yellow fever mosquito will not convey the disease until at least twelve days have elapsed since the time when it bit a yellow fever patient.

"In commenting on the recurrence of cases of fever which were suggested as originating from fomites, the Doctor asks: 'Why could not infected mosquitoes remain in the house for that length of time, when they have been observed to live for seventy days? Other cases brought up in the same way can be dismissed with the same query.' They can be dismissed if one is not looking for facts concerning the subject, but while there remains any doubt as to the mosquito's sole responsibility in the premises, the true scientist and sanatarian will weigh each phase of the question well before reaching his conclusions. Continuing the Doctor says: 'Finally he makes the statement: "Among the many sanitary measures adopted looking to the control of yellow fever epidemics and to the complete eradication of the disease, no exertions were ever directed towards the mosquito extermination." That is a great mistake, for from time immemorial, sulphur has been used as a disinfectant. On investigation it has been found that sulphur destroys mosquitoes, etc.' The quotation from my paper is correct, no measures directed to the mosquito extermination were ever adopted before. The comment, however, is quite ludicrous. If a few birds were killed during the Santiago engagement, would the report have gone into Washington that 'The boys went bird hunting this morning?' If a few mosquitoes were killed during sulphur fumigation, it was only an incident in the disinfection. The halls, kitchen and unoccupied rooms as a general thing were not disinfected, and no oil was poured on the breeding places. Bispham 'takes the liberty to call my attention to the fact that very many epidemics are spread by mild cases which are unsuspected and therefore unprotected.' With as much propriety, as far as conveying information is concerned, the Doctor might have said 'the sun shines.' If he had been actively engaged in the yellow fever field during the past five years, he would have known that it was the mildness of the disease which has been the cause of the greatest confusion. In some localities it was so mild that the name 'yellowoid' was suggested, that it might be distinguished from the type of fever of Seventy-eight. Look over the epidemics of the past and note the mortality attending the disease. It will be seen that the percentage of deaths ranges from four per cent. in the Brownville, Texas, epidemic (Murray) to thirty-three and one-third per cent. in 1878."

Horlbeck, health officer, of Charleston, in a study of quarantine has said that from the quarantine detention of 40 days, which was the recognized period of detention in the past, to the quarantine restraint of five days now prescribed is a great leap and a vast progress. From the sulphur pots of only fifteen or twenty years ago to the perfected jacketed steam cylinder is a far greater bound and shows a much greater growth. These are not simply advances loosening the checkrein that has hampered commercial prosperity and progress, but they are methods that have greatly minimized and lessened the chances and dangers of the introduction of disease which scourge mankind and desolate the households and habitations of human victims; these steps of human progress have been accomplished in so short a period of time that would almost seem incredible, occurring in less than a generation of man, and during the official life terms of some engaged in the daily mission of protecting our shores from the introduction of dangerous and deadly diseases. With a better knowledge of the diseases our restraints will be still further lessened, and our ability to protect our shores increased.

As pointed out by Horlbeck the head official of our own latitude on the south Atlantic coast of the United States, and to the south of us is never insensible to the notice and warning of the presence of yellow fever, and so around our little world there will be found on the borders of every ocean or sea some plague or pestilence or disease that prevails in that locality with a tenacity and a deadly force that must be accounted with. These diseases demand every requirement that this age of vitality and accountability has furnished and provided for the protection of the people interested. A temperature of 230° F. will kill pathogenic bacteria; we can surely and safely use this temperature with confidence, and we have the jacketed steam cylinder to effect the desired result; with more or less confidence and belief in their germicidal value there are solutions of certain chemical salts and certain vaporizations, but the dominant, all-important, all-pervading necessity in the work of maritime hygiene and maritime quarantine is a better and fuller and more thorough knowledge of the pathology and of the etiology of the diseases against which quarantine officials must contend and make warfare. The all-absorbing necessity is a better and a fuller knowledge of the causes, and we can in no way better further the great and important subject of maritime hygiene and quarantine than by urging upon these earnest gentlemen of the various Pan-American Congresses the necessity of awakening the public thought and interest among the people they represent towards the more definite and closer study of the diseases which hamper commerce.

The exact knowledge of the *raison d'être* of these diseases due to specific origin is imperative, and meantime maritime hygiene and maritime quarantine will never be scientifically fulfilled in any other way. To acquire such sure and certain information there must be established Government commissions, arranged for bacteriological research. In every State and in every community where there are diseases that exact constant thraldom to commerce and that are of ever dangerous importance, there should be established bacteriological stations for constant, unremitting, and continuous work; not that this commission should work for a limited period, and then other commissions organized, whose first duty may be to hunt for a lost thread of a predecessor's labors, but an organization of trained bacteriological experts, who shall be so equipped as to ensure a successful investigation, and to continue such labors until the work that has been assigned to them has been brought to a successful termination—*mulla dies sin sine linea*—following the heritage of Lord Bacon: "Its law is progress; a point which yesterday was invisible is its goal to-day, and will be its starting point to-morrow." For two and a half years Ross, with unflagging interest, though baffled again and again, sought the malarial organization in the mosquito, and found it. The solution of the cause of the transmission of malaria among the nations of the earth—the certain knowledge—dissipating the superstitions of malaria and malaqua, is of such incalculable importance and benefit that it should be a beacon-light in all lands and in all countries. The discovery is the result of well-appointed, well-organized, and long-sustained bacteriological investigation. Laveran commenced this work in 1889, by the discovery and description of the plasmodium malariæ, but it took twenty years of constant work to fulfil all the requirements, so that full fruition should come to mankind; the culmination of the work has been the success of the procedures undertaken and carried out during the summer of the year 1900, at Ostia. To-day it is simply the problem of the destruction of the anopheles mosquito, for no anopheles, no malaria. It has taken a quarter of a century of continuous scientific work to accomplish this brilliant result.

RECENT ADVANCES IN THE STUDY OF RHEUMATISM.

BY J. LEE FOWLER, M.D.

PART II.

It is a well-known fact that joint symptoms in a child are so slight at times that parents are apt to dismiss the complaints with the comforting assurance that they are "only growing pains." It would be fallacious to attempt to determine the number of cases of rheumatism in childhood were these estimated by the joint affections alone; again heart affections may apparently occur alone as the earliest symptom. Do not neglect the undoubted relation between chorea and rheumatism, and our statistics err in frequently classing as chorea only those cases in which there is an association with rheumatism. Probably 55 per cent. of cases which come under treatment for chorea show positive evidence of rheumatism; these cases, commonly regarded as chorea only, have probably accounted in part for the statement that rheumatism is a disease of adolescents and adults rather than of children. The slight articular pain frequently complained of by children often will reveal a real affection of the joint, and it is important to remember that the hip-joint is frequently affected, and in such a monarticular case the mistaken diagnosis of beginning tuberculous disease might well be made. Pain from the hip, as is often emphasized, may be referred to the knee. In childhood, dilation as well as irregularity of the heart may occur without endocardial symptoms. Wasting is also common in this affection in childhood; nodules are much more common in rheumatism in childhood than in adults. There is a close association between these nodules and endocarditis. There is one result of rheumatism in adults which is almost unknown in childhood, and that is the cerebral rheumatism or rheumatic hyperpyrexia. Pain in the stomach, pain in the side, usually the lower portion of the axilla, and headache are common symptoms. The nervous child is par excellence the rheumatic child. Such children are apt to be excessively or, on the other hand, very timid and shy, even to the point of appearing morbid. The writer suggests that red hair is often associated, both in children and adults, with the rheumatic tendency. Somnambulism and talking in the sleep, and habit spasms are also evident in rheumatic children. The author points out lastly the importance of paying heed to the trivial symptoms, recognizing, for instance, the serious nature of "growing pains."

Maclagen introduced the salicyl, compounds in ths treatment of rheumatism in 1874, and this was followed later by the employment in Germany of salicylic acid. These drugs rapidly relieve the pain and reduce the temperature if administered in sufficient quantity; with regard to their action, it has been urged that: (1) they act as antiseptics, and destroy the specific organism, (2) that they exert an antitoxic action, and (3) that they act as nerve sedatives. It appears probable that they must exert a depressant action upon the heart before they can be introduced in sufficient quantities to saturate the blood up to the necessary point. With regard to the second view they may destroy or neutralize the offending toxin; they are powerful hepatic stimulants, and they also possess the power of combining with fatty acids, the seat of whose manufacture is to a great extent in the liver; one of the toxins of rheumatic fever may be a fatty acid which is seized upon and removed by the salicylate. A decided advantage possessed by the salicylates is that they produce sweating. In treating a case of rheumatic fever, the patient should wear a woollen night-gown and sleep between blankets, and the room should be well ventilated. Absolute and prolonged rest is essential, especially with the view of preventing cardiac complications. The diet should be fluid, largely milk, and plenty of water should be taken. As to drugs, 20 grains of soda salicylate and 30 grains of an alkaline carbonate should be given every three hours until the pain is relieved and the patient is fully under the influence of the drug, when it should be given every 4 hours until the temperature has fallen to normal. Afterwards, 15 grains of the salicylate and 20 grains of the alkaline carbonate are given every 4 hours until all the joint symptoms have disappeared; then 3 times a day until a fortnight has elapsed from the complete disappearance of the joint symptoms. The natural salt rather than the artificially prepared soda salicylate is recommended. By a free movement of the bowels at the outset by a saline or mercurial, the effects of salicism can be largely prevented. Salicin, recommended as being less of a cardiac depressant, is sometimes useful instead of the salicylate. The painful joints may be blistered, or be wrapped in a salicylate of methyl preparation, and the air excluded. It is important to keep up the treatment long enough, for many so-called relapses are really recrudescences of a disease not yet terminated. For endo- and pericardial affections local blisters are recommended, and stimulants when indicated. Hyperpyrexia is best treated by cold baths, the water should be at 65° F., and ice added as the temperature of the water rises, when the patient is submerged. Occasional courses of the salicylates are useful in patients having light recurrences. A largely vegetarian diet is recommended, and careful personal and general hygiene.

Predtetshenski, in bacteriological study of 5 cases of acute articular rheumatism, employed special media and methods for the cultivation of Achalme's bacillus and Wassermann's sterptococcus, but in neither of the cases was Achalme's bacillus found. In 3 the cultures remained sterile, while in 2, anerobic cultures of the blood on the medium devised by Achalme resulted in a growth. In one a micrococcus was found possessing the following characteristics; the organism ocurs in chains of 2, 3, or 4, forming much longer chains in fluid media; it stains well by Gram's method; and is a facultative anerobe, growing well on ordinary culture media. Bouillon is rendered uniformly turbid; on agar the colonies are delicate and transparent; milk is coagulated; gelatin not liquified. Morphologically, then, this organism resembles closely Wassermann's streptococcus. Inoculations into animals produced a disease presenting the clinical picture of acute articular rheumatism in man. Ten to fifteen days after the inoculation painful tumefaction appeared in the joints of the legs, principally the large joints, accompanied by fever, loss of weight, and finally terminating in death. Autopsy showed marked inflammatory changes in and about the joints, the latter containing a small amount of a turbid fluid. In one of the guinea pigs, a well-developed endocarditis was found. The organism was recovered from the blood and joints of the dead animals; it proved nonpathogenic to rabbits, the latter showing only a slight reaction. In the other case the organism found was also a micrococcus very similar morphologically to the preceding except that it grew more vigorously and formed shorter chains. Animal inoculations gave the following results: In one guinea pig, the inoculation was followed by an elevation of temperature and loss of weight. These symptoms soon subsided. In two weeks painful swelling of the knee joints appeared, the animal being unable to use its limbs. Sodium salicylate was administered, but the animal died. The autopsy revealed hemorrhages into the tissues surrounding the large joints, pericarditis and endocarditis of the aortic valves. Intravenous injection of 0.8 c.c. of a bouillon culture in a rabbit was followed on the third day by an affection of the joints, becoming progressively worse and resulting in death on the 11th day. Autopsy showed an effusion of a turbid fluid into the joints. Another rabbit died on the 14th day after the inoculation, showing on autopsy marked vegetative endocarditis, but no affection of the joints. The organism was recovered from the lesions. It is noteworthy that the patient from whom this organism was originally obtained had a relapse and the same organism was found the second time. The author does not undertake to decide whether the two organisms are varieties or one and the same, but grown under somewhat different conditions, nor does he claim that the organisms are identical with Wassermann's.

Occasionally we find cases in which we should be justified in a diagnosis of rheumatism, wherein the painful affections of the joints and the structural changes therein are long continued and intense in a manner quite disproportionate to that we usually find in rheumatism. These cases Sansom called "complicated rheumatism," which is explained by some cases he reports: "A woman, aged twenty-seven, was lately admitted under my care, complaining of pains in the joints, headache, and sweating. Her temperature was 99.8° F. There was a family proclivity to rheumatism. Her father died from meningitis and her mother and sister suffered from heart disease. The patient said she had had a sore throat frequently, but no rheumatic fever. The illness for which she was admitted began a week previously, and she had pains in the right arm, left leg and knee, right knee, and the left hand and fingers. She was pale and anemic; the tongue presented a white, furred appearance; the tonsils and uvula were inflamed, showing recent congestion; the wrists of both hands were swollen and painful; the right knee and ankle were painful, but not swollen; the heart was quite normal; the pulse 90 and regular. A week after admission there was much pain in the left hand and redness over the ulna, but very little swelling. There was also pain in the right foot over the metatarso-phalangeal joints. Four days afterwards there was a sudden rise in temperature to nearly 103° F., and then a rapid fall to subnormal, 97.5° F. There was corresponding rise the next day and a similar fall. This was repeated for several days, and a week afterwards there was a rise to 103° F., and then a fall to the normal.

This recurred on the following day, and two days after the temperature became subnormal, falling from 98° F. to 96.5° F. There was no rise above the normal subsequently. During the period of irregular rises of temperature there were headache, stiff neck, much swelling of the left wrist and the elbow, and free sweating. Nine days afterwards there was much pain in the calf of the left leg, with tenderness—due, no doubt, to neuritis. There was also continued pain in the right wrist, with much enlargement, and we kept the limb on a straight splint. In ten days the pain subsided and there was a general improvement. The treatment in this case was our usual mixture of salicylate of sodium, administered at frequent intervals. Afterwards the treatment was directed to the general nutrition, and cod-liver oil was administered. Locally we applied hot solutions of soda to the wrists and a blister above the right wrist, and, besides keeping the limb at rest upon a splint, we applied a solution of iodine. When this case was first admitted we had the ordinary signs of rheumatic fever—the temperature being only slightly raised—and then there were certain points differentiating it from the ordinary run of rheumatic fever. (a) The small joints of the fingers were attacked early, and soon after the metatarso-phalangeal joint of the foot. (b) The pain did not subside in the way usual in rheumatism, although the ordinary treatment by salicylates was put in force. Usually the pain and swelling subside within a fortnight; here the disease was protracted to thirty-seven days. (c) The symptoms as regards the joints, especially the severity of the suffering and the amount of the swelling, were not correlative with the temperature. At first the temperature was comparatively low, though there was much inflammation of the joint. Then there was sudden rises and falls without associations with the joint symptoms. There was a sudden drop to the subnormal, when there still existed a great swelling and pain in the left wrist and elbow. (d) At a later period there was severe suffering in one joint—the right wrist, which we kept upon a straight splint. (e) There was no heart affection, although such very severe articular inflammation. (f) There was neuritis shown by the pain and tenderness in the muscles of the calf. The next case of complicated rheumatism was in a man, aged thirty-one, complaining of pain in the back and in the joints of the lower extremities. There was a history of a tendency to true rheumatism as regards the father and brothers. The man had no previous illness. He took a great deal of alcohol and worked a crane on a ship's deck, and therefore was much exposed to extremes of temperature. He had swellings of the knees and ankles, and the sour sweat of rheumatism; pulse, 92, temperature 102.5° F., heart quite normal. The symptoms, therefore, were those of acute rheumatism. He was placed under the usual treatment by salicylate of sodium, and in addition a draught containing opium on rare occasions. At first the swellings with the pain became sufficiently reduced; but a fortnight after admission there was great suffering in the joints of the upper extremities as well as in the knees, and the temperature rose to 104° F. There was a remarkable erythema of rheumatic form over the chest and abdomen and over the flexor surfaces of the arms; the tongue was dried and glazed and there was herpes about the mouth. A week afterwards the pain ceased and the temperature became normal. Four days subsequently, however, there was a return of intense pain in both knees, followed three days afterwards by pain in the wrists, and we applied ice-bags to the joints. In the left knee there was much effusion. Later, there was severe pain in the left shoulder. A gradual improvement occurred, and the patient was able to get up, but still had severe pain and enlargement in the left knee. In this case there was arthritis with high temperature at first, but when the more painful symptoms occurred, there was a sudden drop to the normal. Subsequently there were great irregularities of the temperature in no definite relation to the joint signs.

Sansom says that it is obvious, then, that these cases presented great differences from those that we are accustomed to consider as instances of true rheumatism, and we may consider why they deviated from the normal, a question as much important for diagnosis as for treatment; these patients were comparatively young, whereas, it is more common to get deviations from the type of rheumatism after the age of twenty-five. There was no traceable association in these cases with gout, but to my mind, there was a very strongly pronounced association with osteo-arthritis; that a tendency to osteo-arthritis was ingrafted on to the undoubtedly rheumatic disease from which these patients suffered, and we should ascribe the modifying tendency to a disturbance of the spinal cord. We know that acute inflammation of the spinal cord, as in cerebro-spinal meningitis, may be attended with pain, swelling, and redness of the joints, closely resembling the signs in acute rheumatism, and yet there are manifestations of no other rheumatic affection. I have had some interesting experiences lately as to the effect of influenza in producing a like series of events, the inflammation of many joints with severe pain, almost indistinguishable from rheumatism, but suddenly ceasing with a rapid fall in temperature and unattended by any other rheumatic signs. Again, I have observed in very late periods of the disease an intense inflammation of a single joint closely resembling osteo-arthritis, and in these cases I have had abundant evidence that there is an inflammatory or other change in the spinal cord and its membranes. We also well know certain chronic diseases of the spinal cord, as tabes dorsalis, are attended (as shown by Charcot) with destructive inflammations of the joints. In some cases the joints are profoundly altered, but the changes are in the nature of an atrophy of the tissues not attended with severe pain.

In these cases of complicated rheumatism, the most important points are rest and careful local treatment of the joints, after it is found that the salicylate treatment has not sufficed to reduce all the pain and discomforts. For local relief of the joint, as well as for the arresting of the morbid processes which are characterized by intense inflammation, I believe the use of the ice-bags to be most valuable. It is true that in some cases they are not well borne, and in those I have adopted the plan of applying locally hot solutions of salicylic acid or an ointment of salicylic acid with turpentine spread on lint over the joint and covered by a flannel bandage, as recommended by Bourget. A local hot-air bath has also proved of service in some cases, but the most important point is rest upon the splint, and other means should be adopted to reduce the pain and swelling; it is of the highest importance to treat the case by tonics and cod-liver oil. Massage may prove valuable if the disease proves intractable.

A case of voluntary iris is described by J. W. Scherer (*Jour. A. M.*, May 6). A child at nine developed the power of voluntarily rotating the eyeballs independently. He could dilate the iris at will, almost to the disappearing point. At puberty the right iris was for awhile twice the size of the other, but later they became equal again. The power to simulate convergent strabismus is possessed in this case (that of a woman) to a remarkable degree. Vigorous exercise of the iris movements seem to cause slight aching of the eyes, but no other inconvenient symptoms are reported.

EXPERIENCES IN GYNECOLOGY.

BY WM. WORMLEY, M.D.

THE stem pessary introduced by Sir James Simpson to treat certain cases of anteflexion of the uterus, is intended to straighten the flexed uterus, and maintain it in a normal position. It is unsuitable for cases of displacement of the uterus where the uterine axis is normal. We can divide cases of anteflexion into two groups. First, comes the simple uncomplicated cases; second, the cases in which there are other pathological conditions. In the first anteflexion is the only pathological condition present, or there may be some associated error of development such as a very small uterus or stenosis of the cervix, but cases in the second group are complicated by inflammatory changes, or by the development of a uterine tumor. Some cases present a distressing train of symptoms, such as dysmenorrhea, often menorrhagia, with pain in the back and abdomen, and sterility. The stem pessary is not indicated in all cases of anteflexion with such symptoms, for example, the presence of any progressive inflammatory process, or of a new growth, or of joint adhesions are contraindications. Restrict its use to cases in which the flexion is marked, and is the cause of the symptoms, while the uterus is free from adhesions, and there is no other pelvic trouble. Cervical stenosis is not a contraindication, for the cervix may be divided as previous to the use of the stem. In its simplest form the stem pessary consists of a straight or slightly curved cylindrical rod, provided with a collar to prevent it from slipping into the uterus. This form is difficult to retain in position unless the patient is kept in bed, so modifications have therefore been devised; a "Combination Stem Pessary" consists of an intra-uterine stem fitted to some form of vaginal pessary, such as the Hodge; this serves the double purpose of retaining the stem in utero and supporting the uterus. In using the stem pessary, the uterine cavity must be carefully measured with the sound, and a stem selected a little shorter than the uterus, to obviate injurious pressure of the point of the instrument upon the fundus. In introducing the stem it may be necessary to employ an anesthetic. If the cervical canal be too narrow the cervix may be divided. The stem should be introduced rather by drawing down the cervix with the vulsellum than by pushing the stem into the uterus; should the flexion be so great that the stem cannot be made to pass the angle, it is better to divide the posterior lip of the cervix, as the stem can then be carried back so as to bring it more nearly into the line of the uterine axis; should the cervix be divided a few days should be allowed to elapse before the stem is introduced; and for a week or more after the introduction of the stem the patient is kept upon her back; she is then allowed to get up, and if the stem is retained in position it may be worn for several weeks steadily.

The stem pessary will not cure all cases in which it may be employed, but very marked benefit attends its use in certain instances; its presence is usually well tolerated, speedy relief from pain ensues, and menstruation may become entirely painless. Nevertheless, its use at all is deprecated by many specialists.

Pichevin asserts that the wearing of a pessary succeeded in many cases, especially if the uterus was restored to its normal position soon after delivery; but these deviations were the cause of various disorders being due: (1) To metritis, which is in some cases so intense, especially at the angle of flexion that there may sometimes be found considerable sclerosis; (2) to the existence of a sclerocystic ovary; (3) to the presence of slight uterine lesions, such as adhesions to the pelvis, to the rectum, and to the small intestine. Dubourg advocates dilating the cervix freely, and drainage, and after a time shortening the round ligaments. Posterior adhesions would require posterior colpotomy. Lesions of the appendages might require different methods of treatment, from dilatation and drainage, which in some cases will permit natural evacuation of large fluid collections in the tubes, whether hematosalpinx, pyosalpinx or hydrosalpinx.

In displacement of uterus Parvin wrote that anterior colpotomy, beloved especially by German operators, has proved successful in cases which have hitherto been treated by abdominal sections, such as pyosalpinx, and some cases of cystic disease of the ovaries, and in this respect must be regarded as of great value, for as shown by the statistics of Winter, about one-third of those who undergo laparotomy suffer from hernia, in some cases not occurring for two or three years. By this operation a retroverted or retroflexed uterus may be restored to its normal position, even in cases of very firm posterior adhesions; after the restoration vaginal fixation may be employed. For the removal of myomata, whether pedunculated or mural, especially if the latter are situated in the anterior colpotomy has been successfully done and also in ectopic gestation. Martin states that he has employed the operation in one hundred and sixty-nine cases of ovarian and in one hundred and thirty-nine of tubal disease, and also in nineteen of retroflexed, and seven of prolapsed uterus; one of the four cases of tubal pregnancy was also his. Martin describes the operation as follows:

"The patient is placed in the dorsal position with the legs raised on either side. A speculum being introduced into the vagina, the uterus is fixed with a pair of forceps, invented by my assistant, Orthmann, a combination of a uterine probe and vulsella, which grasps the anterior lip of the cervix so that one can draw down the cervical portion of the cervix to the vaginal introitus. Another pair of vulsella forceps should be fastened just under the orifice of the urethra, about three inches from the cervical opening. The anterior vaginal wall is pulled upwards, a fold is raised vertically, which is to be incised and peeled off laterally from the surface of the bladder and cervical body. Hard fibres will be seen above the vaginal insertion, which are to be divided. The upper border is to be then pushed upward with the finger, separating the loose tissue between the bladder and the uterus, so carrying the former up out of the way behind the public joint. Occasionally, the bladder is distinctly made out, otherwise never seen." The lower forceps had better seize the vaginal wall at a point corresponding with the internal orifice of the urethra; a good tenaculum forceps answers. Splitting the vesico-vaginal wall is done with the scalpel, and separating the bladder from the uterus will occasionally require scissors to divide firm tissues, and the operator during this process can avoid danger by keeping close to the cervix, the white appearance of which will be his best guide to avoid the bladder.

It is stated that Lohlein cured eighteen per cent. of chronic cases with the pessary, and Klotz had twenty-five per cent. of complete cure, sixty per cent. relative cure, and fifteen per cent. remained without improvement, the same means being employed. Ventrifixation seems generally abandoned, at least in Germany, for vaginal fixation, the first suggestion of which was made by Sanger, in 1887. The first method was Schucking's, which has been abandoned because of the danger of injuring the bladder, and because of the uncertain results; Mackenrodt, after performing anterior colpotomy as previously described, but not opening the peritoneal cavity, then stitched with silkworm gut, the uterus to the borders of the vaginal incision, the threads being carried through the uterus one or two centimetres above the internal os; the ligatures were removed in three to four weeks. The result not being entirely satisfactory, he modified his method by carrying the stitches higher up in the uterine wall, and then through the peritoneum of the vesico-uterine cul-de-sac. Other operators, however, open the peritoneal cavity, and stitch the uterus, three ligatures usually being used, the highest passing through the fundus in the vaginal incision, the stitch beginning on one side of the divided vagina, thence passing through the uterine wall and through the opposite vaginal wall. Uterine hemorrhage may be indicative of a number of conditions and should always lead the physician to examine for its cause with patience, for no patient should be permitted to go without a thorough exploration to ascertain the cause of the condition. Do not make the mistake of attributing it to some slight local condition or to the menopause. Should hemorrhage occur at the menstrual period, even though it may be near the climacteric, careful examination should be made, for not infrequently at this period of life it comes from degenerative processes, in which relief can only be obtained by early resort to operative procedures; if you permit your patient to go for some time without subjecting her to treatment, you are doing yourself and her an injury. Resign the case if the patient is unwilling to submit to examination and let some one else have the responsibility rather than to continue treatment upon symptoms alone, permitting the possibility of development of degenerative processes unoperable. Hemorrhage may be due to disease of the endometrium, in which inflammation of the lining membrane leads to distention of the vessels, the circulation is interfered with, papillary growths arise upon the surface, and increase the tendency to hemorrhage, either in the menstrual intervals or at the time of menstruation; it may be due to the retention within the cavity of the uterus of parts of embryonic life, a portion of the placenta, or membranes after abortion, as do retrodisplacements of the uterus shortly after delivery. When a patient suffers from bleeding two or three weeks after her delivery, examine and keep in mind the possibility of its originating from retroversion and retrodisplacement. Growths within the walls of the uterus, projecting into its cavity, interfering with the circulation, are generally associated with bleeding. These growths may be benign, such as fibroid tumors, or malignant, as epithelioma, sarcoma, and carcinoma. Hemorrhage also may arise from diseased conditions outside the uterus in its immediate vicinity, inflammation or an exudation situated in the broad ligaments, the presence of an ovarian or broad-ligament cyst, or an ectopic gestation; the return circulation through the veins being obstructed. The presence of fecundated ovum in the uterus, the hemorrhage a result of increased congestion and an indication of threatened abortion may cause hemorrhage. Excessive menstrual flow may be an indication that pregnancy exists, continuing during the first two, three, or even four periods subsequent to the conception. Malignant disease in a woman thirty years of age is uncommon yet it is important to remember its possibility, as cancer occurs in women at any age, and the younger the woman the more rapid the progress. Again hemorrhage results from constitutional diseases; from depraved nutrition; it may be an indication of zymotic disease; cases of typhoid fever occur in which hemorrhage is so marked as to lead the physician to believe that it is caused by some local trouble. Diseases of the kidneys, of the liver, and of the heart not unfrequently produce uterine hemorrhage. Diseased condition of the ovaries is a cause of hemorrhage; thus, in chronic ovaritis, accompanied with formation of cysts, hemorrhage is common, and in some cases only relieved by the removal of these organs; ovarian hyperemia is one of the most frequent causes of hemorrhage in early menstrual life, and if the condition is neglected, results in chronic inflammation of the ovaries. In a patient under my care we are able to eliminate by examination the probability of this hemorrhage arising from any other cause than a local one; there is a growth within the uterus which is perceptible through the abdominal walls, and this growth is undoubtedly the cause of the hemorrhage. Growths within the uterus are usually of one kind. They develop in the organ itself, due to a localized inflammation and hypertrophy. These growths classified according to the situation, one in its origin of development, situated near to the mucous membrane, as it subsequently increases in size is projected into the cavity and pushes before it the mucous membrane. One situated near the outer wall would be projected beneath the peritoneum, becoming known as a subperitoneal, contradistinguished from one beneath the mucous membrane, or submucous. Those tumors, equally distinct between the two walls, increase in size and project internally and externally, or "interstitial tumors." The submucous growths are most likely to be accompanied by hemorrhage, interfering with the circulation in the mucous membrane. The pressure of a growth upon the mucous membrane paralyzes their muscular coat, and when the vessel ruptures it has no contractile power to stop bleeding. These growths influence the circulation of the organ and distress from pressure the surrounding organs and the pelvic contents; filling up the pelvis it presses upon the rectum and bladder, upon the ureters, and keeps the patient in torment until it attains sufficient size or is pushed out of the pelvis, resting upon the pelvic brim. Congestion about the anus, due to the pressure, to the formation of hemorrhoids, fissures, and from rectal bleeding then appears. Pressure of the tumor upon one or both ureters gives rise to hydronephrosis, to continuous pain in the region of the kidney.

A fibroid tumor causes marked hemorrhage, a condition of profound anemia, a straw-colored appearance of the skin, leading to the belief that the patient is suffering from malignant disease; this is sufficient to indicate the necessity for an operative procedure, and it becomes a question of importance to decide its character. If the tumor is found to be already dilating the cervix, and is partially extruded from the cavity of the uterus, further enlarge the cervical opening, and enucleate and remove the growth, seizing it with a strong pair of vulsellum forceps rotating upon its axis until the pedicle is twisted off and the tumor can then be delivered by traction; it may sometimes be attended with considerable difficulty, and may necessitate the incision of the cervix on either side. Pack the cavity of the uterus with gauze, suturing the incised cervix. Use such remedies as will bring about a contraction of the uterus, cutting off the supply of blood to it; of these, the most effective is ergot, increasing the contraction of the muscular coat of the vessels and stimulating the contraction of the uterine walls, having a double effect, given by the mouth, by the rectum, in the form of suppositories, or by hypodermic injections. If hypodermics are used, care should be exercised that the remedy is free from micro-organisms; it should be given with a clean instrument, and the needle should be inserted deeply into the tissues, preferably over the abdomen. Such injections may be given two or three times a week. Ergot by stimulating the contraction of the uterus facilitates the extrusion of the mass into the uterine cavity or vagina and the dilation of the cervix. Extrusion into the vagina may be facilitated by dilating the cervix or by making lateral incision. A very good combination is to give an ounce of fluid extract of ergot in combination with a half ounce each of fluid extract hamamelis and tincture of cinnamon; of a drachm three or four times a day, or every two or three hours, if necessary, to control hemorrhage. Ergot may produce disordered conditions of the stomach. so that it cannot be continued for any time. In such cases where the tumor is situated high up in the uterus, the cervix is undilated, and the walls of the uterus have undergone considerable fibroid change, it becomes a serious question as to what shall be the method of procedure. Where it is evident the uterus is pretty well destroyed, the patient suffering from constant attacks of hemorrhage, the life endangered thereby, the preferable operation in such cases would be the extirpation of the uterus, for although palliative operations may be done, such as ligation of the uterine arteries through the vaginal incisions, as suggested by Martin; ligation of the ovarian and upper part of the utero-ovarian anastomosis, yet it was found that the operation did not always arrest the hemorrhage or decrease the growth. Eastman has devised a ligature for the ovarian artery, and then has subsequently pushed off the uterine artery, tearing the small branches by which the uterus is supplied, and removing the entire organ without second ligature. The complete extirpation of the uterus with the removal of a small portion of the cervix, where readily performed, is preferable; the plan of operation is similar to that already discussed, with the exception that the opening is made into the vagina posteriorly, and the cervix separted from the vagina and removed entire. Both these operations, of course, should be preceded by asepsis. After the organ is removed, the cavity may be packed with iodoform, the end of it projecting into the vagina and the peritoneum stitched over this, shutting the gauze outside the peritoneal cavity. The abdominal wound is then closed entire. The advantage of this over the extra-uterine method of treatment is that the convalescence is much more rapid, the patient is less likely to have a weakened ventrum, and subsequent ventral hernia. There is an absence of the traction upon the vagina and uncomfortable pressure upon the bladder, and the patient is deprived of nothing that is of any special value. For hemorrhage, the intrauterine use of the positive current has been beneficial, but it is only temporary in its effects. Its discontinuance leads to redevelopment of the diseased condition, and the return of the hemorrhage is as severe as before.

In uterine therapeutics, ichthyol is useful in eczema of the vulva, pruritus, vaginitis, vaginal cicatrices, erosions of the cervix, etropion, hypertrophy of cervix, multiple lacerations of cervix, cervical endometritis, subinvolutions, and indeed all gynecological conditions. Eczema and prutitis are cured at once in many cases. In vaginitis the results are most gratifying, the ichthyol being applied on tampons in antiseptic glycerine solutions. For endometritis ichthyol is used in 10 to 20 per cent. solution, and not only cures for the time but prevents a return of the trouble; is useful in some cases of metritis and parametritis; not more than 11½ grains were rubbed into the skin by means of a 10 per cent. ointment, and it was also applied to the vagina by means of tampons impregnated with the glycerine solution. After three or four days of this treatment, combined with rest in bed and the mild use of saline purgatives, convalescence set in promptly. The drug is absorbed, is comparatively cheap, since it is used in 10 per cent., or at most, 20 per cent. solution, does not permanently stain the clothing, has an odor which is easily disguised by volatile oils, and, unless used in conjunction with lanoline, a non-irritant to the skin. Cotton soaked in 5 to 10 per cent. of the Sulph-ichthyolate of Ammonia in glycerine causes speedy disappearance of acute vulvitis with painful erosions, and in vaginitis, tampons impregnated with this solution are equally efficient. In urethritis a 5 to 10 per cent. solution of ichthyol in water, when injected, caused prompt subsidence of symptoms. Cervical endometritis, with ulcers, was quickly cured in from six to eight treatments with tampons soaked in 10 per cent. ichthyolate in glycerine, while the same solution, carried in by means of gauze, cured endometritis of the uterine cavity.

Hemorrhagic metritis is usually not painful; when so, the pain is only present when clots are being expelled, although as in all other diseases there are exceptions to the rule. The patient more likely complains of a sensation of weight in the pelvis; she "feels her uterus," and this painful symptom is particularly noted in the median line. The pains may be those of painful metritis, and are seated in the pelvis, kidneys, and the inner aspect of the thighs. Between the metrorrhagia, leucorrhea is frequently present, whitish-yellow in color, rather thick, and comes from the uterus, while the gelatinous leucorrhea of the cervix is rarely met with in these cases, because the lesions are seated in the corpus and not in the cervix. The cervix will be found enlarged, although not greatly, while the uterus is larger than normal, and movable, usually without tenderness. The adnexa, if not previously diseased, will be found normal.

The cervix is in a state of hypertrophy, participating in the enlargement of the corpus. When you find by digital and bimanual examination, as well as by a careful palpation, that the uterus is slightly hypertrophied, that the cul-de-sacs are normal, and still more, that the patient attributes the trouble to a miscarriage, no doubt should remain as to the nature of the affection. A fibroid polypus could not cause a mistake, for it is usually detected easily through the half-dilated and patulous cervical canal.

Hemorrhagic metritis does not tend towards cure, and neither does it grow worse. The patients become weak after a longer or shorter length of time from the repeated loss of blood; becoming decidedly anemic; their organism is less resistant against other intercurrent maladies. The prognosis is relatively serious, because the metorrhagia renders the patient weak. The flooding forces her to remain in bed at least several days monthly, while the rest of the time anemia is so marked that she has not the vitality to attend to her duties. This type of metritis is usually interstitial or mixed, *i.e.*, both glandular and insterstitial. Hemorrhagic metritis of old age is the purely interstitial variety, while in young women the stroma presents the most marked lesions, but the glands do not completely disappear. The newly-formed vessels, which are only capillary, are most irregular and of relatively large calibre. They are generally very superficially situated at the free surface of the endometrium, while the greater part of the cul-de-sac of the glands are situated below them; the hemorrhages can be accounted for by the number and situations of these newly-formed vessels.

When the impregnated ovum comes into the uterine cavity, some eight to ten days after leaving the ovary, it reaches the congested endometrium; it is stopped in the neighborhood of the orifice of the tube by one of the many folds which exist in the mucosa, and being pressed between these folds, it finally becomes planted in the mucous membrane. The borders of this depression produced by the implanted ovum soon rise up and surround it; hypertrophy then takes place, and progressively the germ is closed in, imprisoned in a cyst, whose walls are made up of the endometrium; the part covering the ovum being the decidua reflexa, while that which has been pressed in by the ovum, and on which it is implanted, forming later on the placenta, is the decidua serotina; the endometrium, which has no relation to the ovum, is the decidua vera. At the outset of pregnancy the ovum is extremely small, and the decidua covering it is in contact with only a very small portion of the decidua vera, but towards the end of the third month the decidua reflexa is in direct contact with the entire decidua vera. After the commencement of the fourth month the decidua vera and reflexa begin to close together, and from that time on both membranes are so intimate that they form but one. At the same time many very solid adhesions are formed with the chorion, the latter being, as you are aware, the external envelop of the ovum. During the first two months the decidua vera is thick and very vascular, while its internal aspect is riddled with small openings, which are nothing more than the orifices of the uterine glands; it progressively loses its vitality, the folds disappear, it decreases in thickness, while the greater part of the vessels and their elements vanish. This atrophy is most marked at about the fourth month, and at the same time the adhesion between the decidua vera and reflexa is about complete. According to Friedlander, changes take place which end in the detachment of the decidua. These begin at the third month and have the following characters at the end of pregnancy: The decidua vera has no epithelial lining, being reduced to two layers, one glandular, the other composed of special cells. The first named is in direct contact with the muscular tissue of the uterus, and is composed of glands lined with epithelium and united by connective tissue. The second is made up of large round cells in the most superficial part, while that portion which is in the proximity of the glands is composed of spindle-shaped cells. It is in the middle of the spindle-cell layer that is found the line of division of the decidua when this is expelled, thus leaving the glandular layer with part of the spindle cells adhering to the muscular tissue. At the commencement of pregnancy it undergoes the same histological changes as the decidua vera, but the atrophy occurs much sooner, generally one month after conception. According to Kolliker, the glands, vessels, and epithelium diminish little by little as the decidua reflexa becomes atrophied, and during pregnancy all its elements disappear. The decidua serotina takes on an entirely different growth. Quite in the beginning it presents no difference in structure from the decidua reflexa and hypertrophies along with it. The vessels increase in size and come into relation with the corresponding villosities of the chorion, and a hypertrophic condition results, which is just the opposite from the atrophic changes in the decidua reflexa. This hypertrophy results in the formation of the maternal placenta, while at the same time the reflexa becomes hypertrophied as well as the vessels they contain, and the result is the formation of the fetal placenta. The atrophy of the villosities extending into the decidua reflexa is complete at the end of the third month, the placenta then being a distinct organ, developing proportionally to the growth of the fetus. It is consequently not to be wondered at that an abortion occurring during the first three months has, as a result, a partial expulsion of the decidua. It is evident that where the most work is going on, namely, in the decidua serotina, that separation is accomplished with more difficulty, and it is pecisely here that pieces of the decidua will remain undetached. Vera is better placed to give rise to the production of hemorrhagic metritis, for it is only in a marked condition of atrophy at the end of the fourth month.

As to the question of infection there is much difference of opinion: Some authorities believe that there must be infection in all metritis, and in this particular type infection is limited and local, the decidua débris acting as a good culture medium. As to the treatment of hemorrhagic metritis there is but one, and that is in the curetting of the uterine cavity, done as soon as you are certain that the metrorrhagia is not simply due to the miscarriage, but is a symptom of a lesion of the mucosa that will only disappear by the removal of the retained membranes, for by operating as early as possible you will prevent your patient from becoming anemic from abundant and prolonged bleeding. Curetting should be immediately done if the life of the patient is in danger, but in the great proportion of cases you will be able to control a metrorrhagia due to an abortion occurring in the first few months of pregnancy, by hot vaginal irrigations or with a careful aseptic vaginal tamponade. Attacking the endometrium with the curette should only be resorted to when the metrorrhagia has become symptomatic of hemorrhagic metritis. Curettement is clearly indicated when hemorrhagic metritis has declared itself, and this may safely be said to exist as soon as a second metrorrhagia appears, thus, when a woman who has had a miscarriage, accompanied by a very profuse hemorrhage, has what she thinks are her menses two or three weeks after the flooding, and this supposed menstruation is a real hemorrhage, surgical measures are indicated. In curetting antisepsis should be perfect; the bowels should be moved the night before, and a warm vagina douche of a one per cent. solution of sulphonaphthol or creolin should be given the night and morning before the operation; in three litres quantities. The vagina should be scrubbed with soap and brush, and the bladder emptied with a glass catheter, which has been kept in a glass filled with a 1 in 100° solution of bichloride of mercury. When the abortion dates back several months dilate the uterus, but if the operation be performed soon after this has occurred, dilatation will not be necessary. The patient should be put under complete narcosis with ether, but in the infrequent cases in which one of these agents cannot be employed on account of some contraindication, local anesthesia may be obtained with a twenty-five per cent. solution of hydrochlorate of cocaine applied to the mucosa; because the curetting of the mucosa destroys the absorbing membrane.

Depress the floor of the vagina with a Simon valve and the cervix lowered by a pair of forceps, care being taken not to exercise too much force. With the Recamier curette you are able to reach all the corners of the uterine cavity, while with the latter you can scrape the anterior and posterior surfaces, at the same time that the irrigation through this curette washes away the débris; a hot intra-uterine irrigation of sulphonaphthol or other antiseptic solution should be kept up by means of a Rheinstaedter curette or a Fritsch sound during the operation. The operation should be completed by drainage of the uterine cavity with sterilized iodoform gauze, which may be dipped in a forty per cent. solution of creosote in glycerine, which has a favorable action on uterine tissues. No elevation of the temperature should follow the operation, and if there should be, the packing is to be renewed, intra-uterine irrigation being also given. When all goes well, the gauze is to be renewed on the second day, and a new strip inserted after an intra-uterine douche. It is always a good plan to irrigate the uterine cavity at the first change of dressings, because it will remove any débris of the mucosa which may possibly remain. Remember that the change of dressings must be done with as much antiseptic precaution as the operation itself. Renew the gauze again on the fourth day, after which time a daily antiseptic vaginal douche will be all-sufficient.

Mikulicz's disease, or "mumps of the lachrymal glands," is described as a symmetrical tumefaction of the lachrymal and salivary glands. This appears to be a distinct morbid entity not previously characterized. Surgeons have not hesitated to excise the glands; but physicians have controlled the affection very well by prolonged use of arsenic or of iodide of iron or potassium. Mikulicz thinks that the lachrymal infection is primary, and that the salivary glands become involved later owing to the anatomic communication between the lachrymal passages and the mucosa of the naso-pharynx.

Localized rales in phthisis appear at a very early stage (H. B. Whitney, *Bost. Med. and Surg. Jour.*, May 18, 1905). Most cases begin at one apex as a mild broncho-pneumonia. The consolidations are too small and scattered to be recognized. Diminution of respiratory movement is imperceptible in very early cases. Severally the pitch is only a little above normal and very slightly prolonged. Localized rales are nearly pathognomonic, especially moist rales or perhaps dryish clicks. Sonorous and sibilant rales occasionally originate outside the lung; they should be sought everywhere but occur oftenest in the supra-scapular fossa. To elicit these there should be a rather rapid and forcible inspiration with open mouth and an expiration as quiet and natural as conditions permit. Another method is to have the patient give a short, quick cough, followed after a very brief interval by the same deep, quick inspiration. Neither coughing nor deep inspiration will produce rales in health.

IMPROVEMENTS IN TYPHOID TREATMENT AND PREVENTION, WITH A DISCUSSION OF PARATYPHOID FEVER.

BY M. E. FITCH, M.D.

THE use of copper foil for destroying typhoid and colon bacilli is agitating our various city fathers. Kraemer in a series of experiments has determined that intestinal bacteria, like colon and typhoid, are completely destroyed by placing clean copper foil in the water containing them; the effects of colloidal copper and copper sulphate in the purification of drinking water are in a quantitative sense much like those of filtration, only the organisms are completely destroyed. In place of the copper treatment of water on a large scale the householder may try a method for the purification of drinking water by the use of strips of copper foil about 3½ inches square to each quart of water, this being allowed to stand over night, or from six to eight hours at the ordinary temperature; the water should then be drained off.

The authorities at Philadelphia have made extensive investigations while Dr. Doty at the New York Quarantine Station has had extensive experience. He has tried copper first alone or with lime to destroy mosquito larvae, then as a deodorant and disinfectant. In the destruction of mosquito larvae and as a deodorant the use of copper with lime is more effective than when used alone; this destroys the larvae by rapidly removing from the water in which they are contained the organic matter or nourishment on which they depend; the result not being due to a toxic effect of the copper or lime. In swamps or bodies of water covering large areas, where fresh water and organic matter are constantly being added, the use of the mixture is not practicable, so its value here is not apparent. In collections of stagnant and offensive water, where the mosquito larvae are frequently found in enormous numbers, the mixture of copper and lime, one pound of copper and one pound of lime, to ten gallons of water added to 500 gallons of water, is of great value, as it not only destroys larvae but deodorizes the fluid. In swamps, where there is usually but little sunlight, and where there is the most active propagation of the mosquito, there is no doubt as to the superiority of petroleum, not only for the destruction of the larvae, but in driving away insects. Copper and lime, or petroleum, should be used only when it is impossible to carry out the scientific and radical measures for the extermination of the mosquito, which is, proper drainage and the observance of the laws of modern sanitation. The action of copper as a deodorant is rapid and permanent; it is harmless, and is cheap and easily made, and seems to comply with the requirements of a typical deodorant; its range of usefulness is extensive, as it can be employed equally well for deodorizing solids or fluids. In tests made with typhoid bacilli; in distilled water, tap water, water from sewers, and broth, it was found that in distilled and tap water a solution of 1 to 10,000 killed in one hour. In distilled water a 1 to 100,000 solution killed in two hours, while in tap water it required from six to eight hours to produce the same result. In water taken from street sewers a 1 to 1,000 solution was required to kill typhoid bacilli in one hour, while in broth it required a 1 to 300 solution for this purpose. A 1 to 10,000 solution in distilled water killed the cholera organism in twenty minutes.

Out of 1,463 cases of typhoid fever, there have been

39 instances of venous thrombosis, a percentage of 2.6 at Johns Hopkins Hospital according to Thayer. Two cases were admitted during convalescense, while one case, a patient suffering from double iliac thrombosis coming on during typhoid fever, entered the hospital for treatment two years later. The onset occurred almost invariably in the third week or later; local pain and fever being usually the first symptoms. The fever sometimes preceded the localizing symptom. In 28 per cent. there were chills, the chill in several instances preceding the appearance of localizing symptoms. As a rule, the condition was associated with an increase in the number of leucocytes, the leucocytosis apparently depending on the extent of the lesion, and in mild cases it may be absent. The thrombosis was seen most frequently in the lower extremities, especially on the left side; the femoral vein being most often involved. In the event of a sudden severe pain in the lower part of the abdomen, coming on during the latter part of the typhoid fever, and associated with a leucocytosis, the possibility of iliac thrombosis should always be remembered and such a condition in a lower extremity is always a serious complication of typhoid fever. Although the immediate danger is not great, the after results are often grave. He comes to the following conclusions: (1) In 42 cases of typhoid thrombosis the onset occurred almost invariably in the third week or later. (2) Local pain and fever were usually the first symptoms. The fever sometimes preceded the localizing symptoms. (3) In 28.2 per cent, of venous thrombosis occurring in connection with typhoid fever there were chills. In several instances the chill preceded the appearance of localizing symptoms. In the past two years I have seen in consultation three further cases in which otherwise unaccountable chills during convalescence from typhoid fever were followed by a complicating thrombosis. (4) Venous thrombosis in typhoid fever is usually associated with an increase in the number of leucocytes. (5) The thrombosis is commonest in the lower extremities, especially on the left side. The femoral vein is involved with particular frequency. (6) In the event of a sudden severe pain in the lower part of the abdomen coming on during the latter part of typhoid fever and associated with a leucocytosis, the possibility of iliac thrombosis should always be considered. (7) Venous thrombosis in a lower extremity is always a serious complication of typhoid fever. Although the immediate danger is not great the after results are often grave. (8) In thrombosis of the femoral vein a greater or less part of the blood from the affected extremity, is often carried up by the iliac vein of the opposite side, the current crossing the abdomen through anastomosis in the hypogastrium, resulting in a characteristic triangular area of varicose veins.

Concerning the growth of the bacillus typhosus in soil, Martin's conclusions are as follows: (1) Cultivated soils are most favorable to the growth of the bacillus, and in them it may retain its vitality as long as four hundred and fifty-six days, even when the soil has become so dry that it can be finely powdered. (2) All virgin soils, sandy or peaty, moist or dry, are inimical to the growth of the bacillus, which eventually dies out, both at the surface and at a depth of three feet. (3) In favorable soils, in a moist condition, the bacillus flourishes, not only at 37° C., but at much lower temperatures, viz., 24°, 16°, 9°, and 3° C. (4) In soil favorable to the typhoid bacillus, the cholera vibrio was found to be alive and vigorous after sixty-eight days, and the bacilli of diphtheria and anthrax are alive and pathogenic after sixty-six days. Robertson placed typhoid bacilli in soil, which was watered occasionally with solution of organic matter. The bacilli were still present at the end of three hundred and fifteen days, during the winter months.

Professor Hare in the light of growing experience believes that the pure milk diet in typhoid fever is wholly inadequate, so he gives all patients after the first week of typhoid one or two soft-boiled eggs daily in addition to the ordinary allowance of milk; he changes the diet by the use of curds and whey, rice which has been boiled to a pulp, barley, wheat and oatmeal gruel, and a cup of cornstarch with vanilla or some other flavoring substance of a like character. He very rarely sees marked ataxia, so commonly a symptom in convalescence; and the patient's nutrition is so well preserved that he is but little more emaciated than many cases of acute pneumonia at the time of recovery, while secondary complications like furuncles and bedsores are unknown. He believes the average case of convalescent typhoid fever is a fair mark for any infection, because the patient is really half-starved. Recognizing that typhoid fever is characterized by a deficient secretion of digestive juices, all his patients receive hydrochloric acid and pepsin with their proteid foods, and take diastase and pancreatin when carbohydrates are used. He opposes the use of beef tea, which he believes acts as a first-rate culture medium frequently increasing tympanites and diarrhea, and the stools become infected under its use. The modern method of treating typhoid by cold depends in great part for its value on the fact that when cold bathing is used the patient, who is undoubtedly suffering from a form of toxemic neurasthenia, receives a form of rest cure which maintains strength and puts him in first-rate physical shape; but the free use of cold water is not the chief factor for good in these cases, for the massage which follows these baths is of the very greatest importance, aiding the dissipation of body heat, readjusting the circulation and exerting on the patient the beneficial effects which follow the use of massage as seen in the rest cure treatment of neurasthenia. Therefore, Hare advocates the employment of the Weir-Mitchell rest cure in the treatment of typhoid fever. Equally good results can be obtained if these patients are properly sponged, with friction, instead of being plunged, which possesses the additional advantage that the patient does not have to be moved from his bed, that the great muscles of the back can be given more attention than the anterior portion of the body, thereby increasing the dissipation of heat very greatly and preventing the formation of bed-sores. Patients with a temperature below 102.5 should be given tepid baths with friction. Since he has been feeding his patients, Hare finds that they need less alcohol than formerly, probably because the patient burns up food products in the body instead of burning up alcohol.

The ingenuity of medical observers seems to have no limit. Tinossien and Tanois made some ingenious experiments with guaiacol in typhoid cases. They impregnated a napkin with guaiacol, which was held from ten in the morning until four in the afternoon before the mouth of a young patient convalescent from typhoid fever, with marked fever and subcutaneous abscesses; at the end of that period, the urine contained only 0.1 in 1,000 of guaiacol. Several days afterwards the right thigh was painted with 30 grains of guaiacol, many precautions being taken to prevent pulmonary absorption, and the painted part immediately covered; during this time the patient breathed behind a screen. Six hours after the painting the urine showed 0.9 in 1,000 of guaiacol, and the temperature fell two degrees. The extent of the surface on which the guaiacol is painted made a difference in its effect; thus in the same patient 30 grains were painted first on a surface of a hundred and eighty square centimetres, and afterward on three hundred square centimetres. In the first case, after three hours, the urine contained 9 grains of guaiacol, and the second, after two hours 33 grains in 1,000. Absorption seemed to be more rapid on the thorax than on the limbs; in this respect, certain conditions also must be taken into account, such as age, sex, and the nature of the skin. They came to the following conclusions: (1) Guaiacol applied by painting is absorbed by the skin, and this absorption is produced, at least in a great measure, by its vaporous state; (2) The absorption is very rapid; fifteen minutes after painting, the medicament may be detected in the urine. During an hour and a half the proportion increases little by little, and attains its maximum in from an hour and a half to twenty-four hours; (3) After twenty-four hours the total quantity of 55.5 per cent. of guaiacol may be found, after the skin has been painted with from 30 to 60 grains of guaiacol. The absolute quantity found in the urine has been as much as 32 grains after an application of 60 grains, and 50 grains after an application of 150 grains. (4) Cutaneous absorption is such then that it permits of saturating the organism without recourse to the digestive or subcutaneous method.

As to operations in perforation, we are now coming to the idea of operating in the "preperforative stage." When symptoms of a localized peritonitis appear, the patient should be kept absolutely quiet, and tubs omitted, especially if they are disagreeable and resisted; call in a surgeon in this stage of the course of the fever. In the preperforative stage appear local rigidity of the abdominal wall, usually an increased leucocytosis, local pain and tenderness of the abdomen, possibly nausea and vomiting, possibly an increased rise in the pulse and temperature. The symptoms of the perforative stage depend in almost all cases upon the extravasation of the cavity into the peritoneal cavity. With those rare exceptions in which a large blood-vessel of the intestine is eroded by the ulcer and in which the signs of internal hemorrhage are constantly present, the perforation in itself does not give rise to any symptoms. Where the perforation is large, permitting of extensive extravasation, the reflex symptoms of shock will be very marked, such as collapse, fall of temperature, cold, clammy skin, rapid feeble pulse. It is of the utmost importance to examine the abdomen frequently for evidence of local rigidity in typhoid. In patients with a distinct preperforative stage the suden appearance of symptoms of shock when present clearly indicates perforation with extravasation. In these patients with a distinct preperforative stage, a decreasing leucocytosis and increasing abdominal rigidity with or without the previous signs of collapse demand immediate surgical interference. The repair of the ruptured typhoid ulcer should be undertaken as soon after the perforation as the patient can stand the necessary laparotomy and possible eventration. Still operation in the preperforative stage is not to be considered as the rule as yet.

In actual intestinal perforation and peritonitis occurring in typhoid we have now many statistics; one of the most recent collections was by Haggard in a recent issue of the *American Journal of Obstetrics*. Since the first operation done by Mikulicz in 1884, 295 cases have been published, and probably as many more unreported. Probably 25,000 persons die annually from this cause, and a third of these could be saved by timely operation, but the physician hesitates to call the surgeon, or death may come in spite of an operation, or the diagnosis may be obscure. Ordinarily the accident would occur in the third week of the fever, which may have been following a mild course, pain suddenly coming in the right lower quadrant of the abdomen, with collapse, subnormal temperature, pain, tenderness, and rapidly increasing leucocytosis. These symptoms indicate an abdominal section as quickly as possible. 80.9 per cent. occur in men, 19.1 per cent. in women. It is rare in children. It occurs in 2.5 per cent. of all cases of typhoid fever. 3.31 per cent. occur in the first week, 20.19 per cent. in the second, 38.94 in the third, 14.40 in the fourth, 9.13 in the fifth, 5.75 in the sixth, 7.21 from the seventh to the eleventh, and it has occurred as late as the hundredth day. It occurs more frequently in severe attacks, and may be the first marked symptom of walking typhoid. It occurs in the ileum in 95.5 per cent., usually within 18 inches of the cecum, always within three feet. It occurs in the large intestine in 12.9 per cent. of cases, and is most often situated in the ascending, transverse, and descending colon, the sigmoid flexure, and rectum, in the order mentioned. It may also occur in the appendix, Meckel's diverticulum, and the jejunum. The perforation is single in 84 per cent. of cases. Tympanites may be said to be predisposed to the accident. According to Murchison, the death rate is 90 to 95 per cent. Osler does not recall a case in his experience which recovered. It is possible to make an incision and find no perforation. The incision should be in the right iliac region unless there is general peritonitis, when a central incision is to be preferred. If an ulcer is found it may be trimmed, excised, or inverted. A mattress suture is preferable, and it may be transverse or longitudinal. Search should be made for other perforations, and resection practised if there is much destruction of the issue,, but an artificial anus is preferable in debilitated patients.

In a recent issue of the University of Pennsylvania *Medical Bulletin* Fox studied the aberrations of typhoid fever which have been long recognized. Eberth described the epidemic at Kloten in which there were 600 cases, the general clinical picture of which corresponded as much to the usual typhoid as to meat poisoning; the origin was undoubtedly the distribution of the meat of a sick calf. There were roseola and enlarged spleen, but it was unlike the fever in its short incubation, mild course, and low mortality (under 1 per cent.). Eberth made an autopsy on each of the two fatal cases and found in the gut and mesenteric changes which corresponded to a true typhoid. In reviewing this epidemic he considers the following questions open: Was the Kloten epidemic the usual abdominal typhus? Was it an abortive type or an infectious process probably related? Is there only one true typhoid fever, or is the so-called typhoid fever met with in several forms? The reasonable doubt of the identity of these atypical cases has become a fact, proven by the same criteria as true typhoid fever, the etiological factor differing from the bacillus of Eberth and Gaffky about as the symptoms approach or disagree with that disease—*i. e.*, the closer the symptoms of the attack the more alike are the biological characters of the organisms apt to be. The first account of "paratyphoid fever" dates back only to 1896, when Achard and Bensaude isolated from the urine of one case, and pus of an abscess at the sternoclavicular articulation of another, organisms which were practically identical. These cases were clinical typhoid fever with striking symptoms, but not sufficient to justify the diagnosis until the micro-organisms were found. The patient's blood reacted in dilutions of 1:1,000; no tests were made with bacillus typhosus with the patients' blood, but antisera of animals immunized against the isolated organisms had no effect upon it, while they agglutinated the corresponding organisms highly, justifying to the reporters the assumption that they were the responsible factors. Again in Paris, Widal, 1897, found a para organism (para is used for all the intermediates of the typhocolon group, pathogenic for man, when a specific type is not needed or given, for the sake of simplicity) in an abscess in a phthisical patient, and considered it the cause of the pus and the slight constitutional symptoms accompanying it. Gwyn, 1898, and Schottmuller, 1900-01, contributed reports of 7 typhoidal cases from whose blood they obtained paratyphoid organisms. The specificity of their cases was shown by serum reactions, while the bacillus typhosus was not affected by the sera.

Fox writes that no effort is made to describe a new disease on clinical evidence alone, but the variations of this clinical picture can be made comparable to the relation of their causative factors, the paratyphoid bacillus with its subdivisions "A" and "B" and some differences, not absolute or well defined, but reasonably clear, may be said to be presented by the literature at present in each of these types. The clinical picture of a single case of paratyphoid fever offers nothing to serve as a diagnostic criterion, but many cases collectively may show considerable deviation from the classical picture of abdominal typhoid. The most suggestive fact is the absence of the serum reaction with the bacillus typhosus. According to the statistics of the Johns Hopkins Hospital 2 per cent. of all cases of typhoid fever present a negative Widal, but only 0.4 per cent. of proven cases give no reaction with the bacillus typhosus. Here is a discrepancy that may be explained by the inclusions of paratyphoid fever cases in the first figure. The mortality to date is about 6 per cent., but this will depend upon our opinion of the completeness of data used in making the diagnosis. The incubation is placed as the same as typhoid fever by Hunermann, who studied the epidemic at Saarbrucken. The stage of invasion is quoted by authors varying from three to eight days, and consists of headache, malaise, sometimes epistaxis, weakness and depression occasionally quite marked. Schottmuller and others especially mention congestion of the conjunctiva and upper air passages. A few times mention is made of swellings of the cervical lymph glands and twice of the inguinal. Herpes has been noted and in Longcope's fatal case were present on lips and nose. Neither diarrhea nor constipation seem to show any supremacy in percentage; they are sometimes accompanied by severe pain in the abdomen. The onset of the fever is very frequently rapid, but in the majority of cases, however, it is the usual step-like advance to the height. After attaining its height the temperature may assume the continued type for a few days, but this period is rarely long and is succeeded by marked remissions that do not ascend and descend near the same time of day as in the case with typhoid fever. This may end in an irregular lysis or a crisis with the symptoms usually accompanying such a temperature fall. The duration of the fever is quoted by Clemens as varying from ten to twenty-two days, but by averaging the days mentioned on thirty-one temperature charts the writer obtained an average of 23.3 days.

Roseola are to be found in 80 per cent. of the cases and may be single or in clusters on the abdomen, hands, face, and, according to Brill's cases, very frequently quite marked on the back. According to Hunermann's observations in the epidemic before mentioned, they appear quite regularly about the twenty-first day after the infection. The spots are clear and frequently dark red. Among other skin eruptions are mentioned scarlatinoid, dark macular spots, and petechiae differing clearly from roseola. The tongue and pulse are the same in character as seen in typhoid fever, including dicrotism of the latter. Bronchitis is mentioned in 25 per cent., and more serious pneumonic processes do not seem to be uncommon. Epistaxis is mentioned in 5 cases, in one of which it occurred twice during the invasion period. Of intestinal symptoms we may find noted all that are present in typhoid fever; vomiting is found occasionally, and in one case it was specially obstinate. Diarrhea is found at one or another time of the course in 60 per cent., and Brion gives a percentage of 18 for the presence of soup stools. Some cases have during their course both diarrhea and constipation. At least no material difference can be made out concerning the bowel movements of these disease forms. Pain in the upper part of the abdomen is occasionally mentioned. In some cases of this form of typhoid intestinal symptoms are entirely lacking. The spleen is enlarged and usually palpable in two-thirds of the cases; only three times is mention made of its normal size. Intestinal hemorrhage is encountered nine times, or 10 per cent., this percentage is made on the whole number of cases regardless of certainty of diagnosis, and when this is taken into consideration with the pathological anatomy it will be difficult to explain. So, too, the pathology will suggest a reason why perforation is not yet mentioned, the few intestinal lesions noted are quite superficial. The urine is usually febrile, containing albumin, sometimes casts, very many times bacilli, and the diazo reaction may be obtained in about a third of the cases.

Four times is mentioned indican in excess and once peptone. Brill's cases gave no indican, acetone, or diacetic acid reaction. Any degree of mental disturbance from depression to the typhoid state may be present. I do not find any reference to the symptoms of spinal irritation called meningismus. The leucocyte count, according to Gutig, establishes an analogous picture of typhoid fever, especially with the neutrophiles. There is leucopenia, followed, in the decline, by lymphocytosis (54 per cent.), and a relatively large number of eosinophiles (10 per cent.). Relapses are mentioned in about the same percentage as typhoid fever, and may follow the initial attack or occur some time later. They bear the same relation to the main attack as is the case in typhoid fever, while in one case (A) two relapses are reported, the second being complicated by a phlebitis in the left thigh. The limits of the disease, including the relapse, is placed by Johnston at twelve to eighty-four days, but he says, "with the exception of the mild cases and in Gwyn's case, the duration of the fever is little indicative of the severity of the attack." The age of the patients varies between seven months and sixty years, the greater majority being between twenty and thirty years. Men are more frequently affected than women, three to one. The largest number of cases have occurred from July to November.

Studying the bacteriology of paratyphoid fever let us examine the etiology of this condition, which has been proven biologically different from true typhoid fever. A strict classification of the colon group that is without objections has not been published for many reasons which are not in the province of this paper, but it suffices to say that there are very many different groups within this series, and while the members of these groups are not identical, they agree sufficiently to be classed together. The classical paper of Durham and the description of six strains of paratyphoid organisms obtained by Schottmuller approach the classification of these intermediates from the cultural standpoint, while Buxton combines clinical and bacteriological characters, in his orders. The study of this latter supplies a very good working basis since it broaches the subject in this way, thereby serving us as a good introduction to the colon group. This author studied twenty-five cultures of many members of this series, including B. coli communis, B. typhosus (4), B. entertidis, B. typhi murium, B. cholera suis, B. dysenteriae (4), B. Hatton (Durham), two of Schottmuller's strains (different types), strains isolated by Gwyn, Cushing, Strong, Johnston (3), Libman, Hewlett, Kurth, and himself. He suggests the following classification for all members of the intermediary groups (except B. dysenteriae) between the B. coli communis and B. typhosus: 1. Paracolons causing no typhoidal symptoms in man, composed of many different members, but culturally alike. 2. Paratyphoids causing typhoidal symptoms in man, and subdivided into (a) those cultures distinctly unlike the paracolons; (b) those culturally, resembling paracolons, but a distinct species. The work of Cushing, Johnston, Schottmuller, Brion, and Kayser in their end results have established nearly identical pictures of the biological reactions of these paratyphoids, and the few individual differences displayed by some of their cultures, and strains described by other authors in their notes of sporadic cases, do not sufficiently disagree to be mentioned. It should be emphasized that these cultures do exhibit individualisms like different strains of any other type. This is notoriously true of the colon bacillus and their allies. The overlapping of biological characteristics is so common as to be misleading at times, and some hope is laid in special serum reactions for the separation of those closely allied. Another point which should be mentioned in the etiological and clinical aspects of these intermediates are the meat poisoning symptoms caused by some of them, and one group is called the meat poisoners. The paratyphoids "B" are very near biologically to this group, and further on analogies will be made to symptoms and pathology found in cases caused by them. Buxton says: "Between the paratyphoids 'B' and paracolons no sufficiently clear cultural difference can be observed, and I doubt if it is desirable to attempt to classify the paratyphoids 'B' and separate them from the paracolons." In Buxton's grouping the paracolons, group L., consist of B. enteritidis (Gartner), B. Hatton (Durham), B. cholera suis, B. typi murium, and one strain isolated by Johnston. The "A" paratyphoids include strains isolated by Gwyn, Cushing, Schottmuller ("A"), Johnston (2), Hewlett, and himself. Among the paratyphoids "B" he places organisms obtained in the cases of Schottmuller ("B"), Kurth, Libman, and possibly Strong, but this last will be found to give some points which seem to exclude it.

Fox comes to the following conclusions: 1. Paratyphoid fever differs from typhoid fever in (a) a shorter invasion stage and rise of temperature; (b) shorter or absent period of continued fever; and (c) marked diurnal remissions of temperature, much deeper than enteric and without periodicity. An absence of the Widal is suggestive, if it persist in reasonably high dilutions. 2. The duration is on the whole shorter than typhoid and the cases where Type "B" was adjusted the etiological role is more striking than in the Type "A" cases. 3. The general findings of the Type "A" cases are nearer to typhoid than Type "B," the latter presenting a picture more like septicemia. 4. The complications of Type "B" infections are more numerous, more purulent, and the course is more fulminating in these cases. 5. The causal germs belong to the intermediates of the typhocolon series, the Type "A" being nearer to the bacillus of Eberth and Gaffky, while Type "B" approaches the meat poisoning group. 6. The clinical evidences of the respective organisms just named agree with their general properties and relations to infections in this order, ranging from the subacute typhoid to the hyperacute meat poisoning. 7. Antityphoid serum will clump the paratyphoid "B" at the same time as the B. Typhosus, sometimes even in higher dilutions; so that a positive reaction of a patient's serum to both B. typhosus and paratyphosus "B" even if the latter be in higher dilutions, will not permit a diagnosis. On the other hand, only twelve times in 94 cases of typhoid fever did the serum react with the Type "A" paratyphoid; so that a positive reaction with Type "A" and not with the bacillus of Eberth may be taken as nearly a proof of the existence of an "A" paratyphoid infection. 8. That there must be some other factor responsible for coagglutinations than an increased value of the agglutinins normally present in the blood seems probable. 9. That the best proof of the existence of a para infection is the isolation of the bacterium, the saturation test, and, last, the bactericidal action.

In chronic colitis Shoup (*Am. Med.*) promotes thorough evacuation by castor oil *per os* and high enemas of oils or of alkaline solutions; hypodermics of morphine and atropine, for the attack of pain which precedes the passage of mucus. There should be an examination of stomach contents, after which appropriate diet should be selected, particular attention being given to allay fermentation. There should be suitable support to overcome ptosis of abdominal organs. (This Einhorn considers very essential), There should be local treatment by means of astringent enemas and oils and topical applications when necessary. There should be sufficient rest in the recumbent position, with change of air to mountains or seashore, when possible.

The New Orleans Picayune loving cup, which it is the custom of that paper to present annually to some citizen who has been instrumental in accomplishing some good for his city, will this year be presented to Arthur W. De Roaldes for his labors in behalf of the Eye, Ear, Nose and Throat Hospital of New Orleans.

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It takes a good deal of time to eat and sleep, or to earn a hundred dollars, and a very little time to entertain a hope and an insight which becomes the light of our life. —Emerson.

INTERESTING FACTORS IN ENTEROPTOSIS.

THE liver is now to be deposed from its exclusiveness and pushed around and operated on as if it were some ordinary organ, like the appendix or the kidney. Operators are beginning to give results in operations for various hepatic conditions, including prolapse. Three such cases have been recently reported by Elliott, in which the patients were free from symptoms six months after operation. His method of operating is as follows: The liver and stomach being exposed by a median incision above the umbilicus, the obliterated umbilical vein, forming a thick cord in the free edge of the falciform ligament, is identified and drawn forward until it comes in contact with the parietal. The hepatic extremity of the ligament rests against the under surface of the right lobe of the liver in front of the transverse fissure; while the umbilical extremity is in contact with the anterior parietal peritoneum, the two portions of the ligament forming a right angle. The round ligament is sutured to the anterior parietal peritoneum with chromic gut and the redundant falciform peritoneal reflection is spread out laterally and sutured to the contiguous portion of the parietal peritoneum with the same material, in this way forming a species of shelf for the under surface of the liver. The abdominal wound is then closed in layers.

The term enteroptosis, first described in 1885, by Glénard, means literally a falling down of the intestine, but its use has been broadened by this French observer to include any condition in which there is a tendency to prolapse of one or more of the abdominal viscera. The descent of each organ separately should be called by its own name with the suffix "ptosis," such as gastroptosis, nephroptosis, hepatoptosis, and coloptosis. While such eminent authorities as Einhorn, Wolkow, Kellogg, Delitzin and Boweret, have laid stress upon the rôle played in the production of this condition by "tight lacing," still this is by no means the sole cause. This is shown by the fact that enteroptosis occurs in men and women who never wore a corset. Still it is a weakened abdominal wall that seems to be responsible largely for the condition, while Stiller has shown the curious fact that many of these patients exhibit a floating tenth rib, the so-called "costal stigma of Stiller."

There may be a variety of reasons for this weakened abdominal wall; it may be congenital, or come from sudden losses of adipose tissue or from abrupt changes in the volume of the abdominal contents. Of course, it is a well demonstrated fact that the condition is far more frequent in women; Glénard believes it occurs in one woman out of every four with digestive troubles. Einhorn, in an examination of 1,912 patients, the majority of whom were dyspeptic, found 240 cases of enteroptosis, only twenty being in men.

Normally there should be no tension-pressure from the abdominal walls upon the contents of the abdomen; Meltzing investigated the question in cadavers, and found that the hydrostatic pressure is equal in cm. to the distance that the measured point is removed from the highest portion of the abdominal cavity, and therefore concludes that the pressure it not due to the abdominal walls, but to the hydrostatic pressure of the contents. In normal positions, experimenting upon himself, there was no negative pressure, but there was negative pressure when he assumed the knee-elbow or the inverted position. Meltzing believes there are two distinct varieties of enteroptosis; the first, which he calls "pure enteroptosis," results from overstretching of the abdominal walls, which forces the ligaments into play and causes them to be overstretched from the falling of the organs, a negative pressure results in the upper abdomen, and for its equalization the diaphragm must descend, and the blood vessels and lymphatics in this region become overdistended. Disturbances of the heart-action, of the sympathetic nerves, and of the circulation follow. The other form of enteroptosis is due to distortion of the abdominal organs from compression, chiefly from tight lacing; this lacing may cause forward pressure upon the abdominal walls, but a general ptosis does not result unless the abdominal muscles are weak and give way, producing combination of the pure enteroptosis and enteroptosis from distortion. In the latter form, if the abdominal walls are strong, there is no change in the size of the abdominal cavity, but the muscles give way only sufficiently to compensate for the downward pressure of the diaphragm; or the force is directed upward, so that the normal size of the abdominal cavity is retained at the expense of the thoracic cavity; this is not really an enteroptosis.

Langerhaus distended the stomach by attaching a condom to the end of a stomach-tube, and after introducing this distends the condom by pumping in air; in this way he believes he obtains a better idea of the size and position of the stomach than by any other method. Langerhaus believes that nervous dyspepsia may lead to gastroptosis in somewhat the same way as chlorosis, and thinks that there is at times, an hereditary tendency to gastroptosis. He does not believe in the existence of a negative intra-abdominal pressure and that abdominal bandages are of use only in the treatment of the postpuerperal form; he recommends gymnastic exercises and careful treatment of the nervous system. Bial is a revolutionist in this field, for he finds that after application of binders in cases of gastroptosis the stomach is not elevated in the least. He is inclined to attribute the effect of binders to suggestion, and believes that the effects of gastroptosis are practically nothing, referring all the symptoms to the neurotic condition of these patients.

This teaching is a little too radical, but it is a question whether the condition is not made actively worse by directing the patient's attention to her condition.

PRIZE ESSAYS—NO AWARDS.

THROUGH the generosity of individuals or the appropriation of funds by medical organizations, there are annually offered in this country, several prizes of considerable value, for original research or compliations. For the most part, these prizes are open to the widest competition, many being explicity free from any restrictions save ordinary standards of medical legitimacy and most of them are restricted only in accordance with the general geographic scope or *raison d'être* of the society under whose auspices they are awarded. As a rule, it is not required that competitors be actual members of the society in question, but only, for instance, that the prize of the New York State Society should not be open to competition by a resident of Alabama or some other state, or that a gynecologic society would not accept in competition an essay dealing with laryngology.

So far as we have known, there has never been any seriously-meant and substantiated charge of unfairness made against the committee of award of any general prize though, doubtless, many disappointed competitors have not been entirely reconciled to the choice of the committee.

It has surprised us to note, however, the frequency with which committees have reported against making any award whatever. Our recollection is that the Alvarenga prize of a trifle over $180, open to competition by any American practitioner in good standing, has not been awarded but twice in five years. The prize medal in medicine of the American Medical Association was first offered for the 1900 meeting. The medal was hand-carved. It was, of course, the intention to have a die made, but the committees of award rejected all essays submitted for the next three years and in 1904, the medal was officially discontinued.

The failure to make awards can scarcely be considered an indication that essays are not forthcoming in competition. In 1902, the Maltine Company offered two prizes, of $1,000 and $500, respectively, for essays on the prophylaxis of disease. Two hundred and nine essays were received in competition. No statistics are obtainable with regard to other competitions, but it is scarcely conceivable that medals and cash prizes offered to a constituency of several thousand physicians, many of whom are highly educated and ambitious young men with very little practice, should fail of response.

We are inclined to believe that the committees of award may overrate the standard to which they are expected to adhere. Obviously, a prize is not intended to apply merely to a good piece of writing nor to a report of a rare case the opportunity of observing which, must be considered as largely a matter of chance. Some degree of originality, coupled with considerable study of preceding work along the same general line, ought to characterize every successful prize essay. A rehashing of ordinary text-books is a simple matter, not in keeping with the standard to be expected in a prize essay. On the other hand, a careful and thorough compilation from periodical literature is of immense practical value to busy students and we can imagine that a prize might well be awarded for work of this nature without any strictly original observations or experiments.

It is difficult to state in general terms just what should be considered adequate labor and success, in competition for a prize. Yet we believe that a fair basis of award is indicated by the amount of the prize itself. For example, if the prize is $100, it ought to be easy for a committee to determine whether any of the competitive essays represent a value of $100, either in the sense that the contribution to science is worth that amount or that the time and expense invested by the competitor represents a corresponding amount.

It should be remembered that any competition represents the essential elements of labor and remuneration, but with this important contrast to ordinary exchanges of work and pay, that the competitor expects to give the fullest value and yet with the chances many times to his disadvantage in that it is not a question primarily between the excellence of his effort and the amount of the possible remuneration but rather as to the transcendent excellence of one among several or many efforts. In the choice, moreover, one essay may be selected among a number simply because it appeals to the special interest of the committee. This disadvantage ought, it seems to us, to be partially balanced by the assurance of an award to the best essay submitted, unless the same is grossly inadequate and not deserving of serious consideration.

We have recently looked over a competitive essay for which no award was made. The unsuccessful competitor was not disposed to complain if any one else had received the prize, but he felt that, if no better essay had been submitted, he certainly should have received the award. How many other competitors in the same contest have the same feeling, we have no means of knowing. This competitor claims that his effort represents an actual expense for typewriting of about ten dollars; for laboratory material and breakage in the series of investigations of at least an equal amount. The essay represents direct experimentation and study with the idea of competition specifically in view, covering a period of nearly two years. For over a month, laboratory investigations were in progress, of such a nature that they could not be left for more than eight hours at night nor for more than four or five in the daytime. With the object of the competitor's essay largely in view, a course of a month of half-days was taken under competent instructors, in a large institution. Simply with reference to a point "mentioned in passing," 500 clinical observations on over half as many subjects were tabulated. Many hundred laboratory examinations were made in direct bearing on the subject in question. The literature, in two foreign languages as well as in English, was quite thoroughly studied, though the novelty of the investigation rendered a systematic search of periodical literature unnecessary. The purely arithmetical computations necessary in tabulating results, represented at least three full days' labor and at least one full additional day was spent in preparing diagrams. The investigation carried with it abundant evidence not only of thorough medical but of scholastic education, in the two languages mentioned, analytic geometry and chemistry, including certain phases of physics. The study could not possibly have been carried on without interruptions nor without actual clinical facilities which obviously necessitated other interruptions. The writer, however, estimated that if it had been possible to carry on the study continuously, it would have occupied about two months with working days of ten hours each. The prize, if awarded, would have been equivalent to an allowance for actual expenses and wages at about $1.25—$1.50 a day.

Without attempting to pass judgment upon any individual claim, we can hardly believe that prizes are offered year after year, without eliciting responses representing bona fide studies in the various branches of medical science, worth the prize, simply regarding it as wages. The object of such prizes is to stimulate medical research and to add to the sum total of medical knowledge. We hold that the standards adopted should be such as to allow competition by any well-equipped physician, that the minimum requirement should be approximately commensurate with the value of the prize and that due credit should be given for any thorough study, whether leading to positive or negative results. The general precedent of our profession is to estimate values rather by work than by a speciously brilliant result. So, in regard to medical research, it is not usually possible to foretell whether a given line of investigation will lead to some astonishing new discovery or whether, after much labor, it will simply have been shown that the passage is a blind. What the medical profession needs most of all is a record of thorough investigations along various plausible lines and absolute facts. It is not so satisfactory to overthrow an accepted theory as to build up a new one, not so satisfactory to end a long series of experiments with guarded and conservative statements, as with claims of a wonderful discovery. But, we want the truth, whatever it is and we should neither tempt the setting forth of specious claims nor refuse just recompense to one who has drilled deeply after treasure and found only an unprofitable rock.

After all, we question seriously the wisdom of the system of encouraging research by prizes. We would rather advise granting the prize in advance. That is to say, medical societies might better establish research funds from which small grants may be made to prospective investigators who may be able to demonstrate to a committee, their good faith, and the reasonableness of a line of investigation which has occurred to them.

THE MOSQUITO CRUSADE.

MANY efforts have been making during the last few years to destroy the mosquito, which besides being an instrument of physical torture, is now known beyond peradventure to be the main propagator of malaria. Failures among such efforts have for the most part been due to lack of thoroughness in the proceedings—such thoroughness and attention to detail as is essential to combat any infection. We recall a conversation with a bucolic gentleman whose home is in New Jersey and who had for one season contributed to a fund raised in his community for the extermination of the mosquito by the use of oil and other modern procedures upon the swamps and pools in the neighborhood. The next summer the mosquitoes swarmed as thick as ever; wherefore this gentleman declared he "Would be gosh dinged (or words to that effect) if he'd give them fool doctors another cent" for a renewal of their efforts. Not wishing to seem forward we did not ask if he had taken the trouble to cleanse and purify his own cesspool.

This but emphasizes the observations of Health Officer Doty in the New York *Times,* whose experience has taught him that in a mosquito crusade, public effort without private co-operation is likely to be disappointing and perhaps futile. He has planned now to rid Staten Island of this pest and declares that all the crude oil in the country, and even the cutting of the tall grass—which measures are in themselves only palliative—will do no good unless the inhabitants themselves will get rid of all cesspools and spots on their premises where the insects can breed. It is very essential that the public be made to comprehend this; if the individual will do all he can to reduce the pest to the minimum on his own premises, the health authorities' will be able with this addition to their own efforts, to prophesy a very great measure of success. Moreover, Boards of Health should in their sanitary codes make the maintenance of mosquito-breeding conditions a public nuisance, involving penalties adequate to discourage negligence. This is not merely a question of comfort; diseases of the material type are extremely prevalent, often dangerous to health, and sometimes even fatal, either directly or as a contributary cause.

TETANUS.

THIS dreadful and generally fatal disease claims many young victims after "the Fourth," at least 400 every season. The bacillus has its habitat mostly in earth and sometimes in putrifying fluids or manure. The infection occurs generally by means of the introduction of germ-laden dirt into wounds, sometimes very slight, especially of the hands and feet. Punctured wounds, such as are caused by nails, or contused wounds are more viable than such as are clean-cut.

The bacillus is considered not to transverse beyond the site of the injury and not to enter the lymph or blood channels. The toxins, which it generates, are the virulent factor. The symptoms develop slowly and may not become manifest until a fortnight after the traumatism. There will be rigidity of the neck and the jaws, difficulty in mastication and swallowing, chills, rigors, asphyxia and spasms of various muscles. There may be the *risus sardonicus*—the eyebrows raised, the angles of the mouth drawn out,—and with opisthotonos or some modification of this contortion. The respiration will be rapid, there will be profuse sweat, chills and temperature, perhaps, beyond the thermometer's scale.

The mortality is 80 per cent. If the spasm limits itself to the muscles of the neck and jaw and there is little fever, one may hope for recovery.

Several things are essential to bear in mind concerning tetanus. Pronounced symptoms represent, not the onset of the disease, but the beginning of the end. Seven-eighths of the wounds, which develop tetanus are inflicted by blank cartridges. Most of the remainder are due to giant firecrackers. Therefore, these two forms of fireworks should not be allowed children. Practically no tetanus cases have resulted from roman candles, display pieces, torpedoes, paper caps or small firecrackers. Local treatment should at once be instituted on the open wound plan, with strong peroxide of hydrogen solutions. Deep wounds, such as those due to a nail or the tines of a hay fork, or where the paper wad of a blank cartridge is carried into the tissues, must be cleansed, enlarged if necessary, and packed from the bottom with gauze. Wherever there is the slightest apprehension tetanus antitoxin should be injected. The Health Department in New York City has this serum always on hand and each vial is accompanied with directions and dosage. Eserine internally or by hypodermic gr. 1/48 every 2 hours; and tincture of lobelia, an initial dose of ten drops, increasing the dose by one drop every two hours, are drugs that have been advocated with the hope of relaxing muscular spasms. Much cannot be claimed for them.

THE FEAR OF CATS.

DR. WEIR MITCHELL has produced a very interesting paper upon this theme, (*Am. Med.*, May 27, '05), in which he enumerates classes of people who have this fear, which he terms ailurophobia. There are those who have cat asthma; those who have fear on seeing cats, without sequent, excessive or emotional manifestations; those who manifest such emotions when a cat is near, though unseen by them; those who can smell a cat without seeing it. Besides these, cases occur "in which the consciousness of a cat as present through its smell once existed, but does not now, and yet the ability to detect unseen cats remains." Dr. Mitchell considers that cat emanations may affect the nervous system through the nasal membrane, although unrecognized as odors. He has made an extensive study of this strange manifestation and by means of many responses to questions upon the subject asked him in *American Medicine,* has been able to collect a great many data. His researches have brought to him indisputable evidence concerning a large number of people in whom the presence of a cat gives rise to a variety of symptoms—oppression of breathing, fear, terror, disgust, chilly sensations, horripilation, weakness, locked jaw, fixed open jaw, (in one case), rigidity of arms, pallor, nausea, vomiting (rarely), pronounced hysterical convulsions, "cat-mares"—even temporary blindness. These symptoms pass away with the removal of the cat but may leave the sufferer nervously disturbed for the day. In at least one-fourth of Dr. Mitchell's cases terror in grave form is a family peculiarity. Five in a family of seven had it. In another family the maternal grandfather, two great-aunts, an uncle and a sister were all thus troubled. Sex appears to have no marked influence, but extreme symptoms are more frequent in women. The author relates the following odd case:

"In my own family, an uncle was the subject. My father, the late Professor John K. Mitchell, having placed a small cat in a closet, with a saucer of cream, asked Mr. H. to come into the room and look at some old books in which he would be interested. He sat down, but in a few minutes grew pale, shivered, and said: 'There is a cat in the room.' Dr. M. said: 'Look about you. There is no cat in the room. Do you hear one outside?' He said: 'No, but there is a cat.' He became faint and complaining of nausea, went out and promptly recovered."

Dr. Mitchell cannot explain the ultimate cause of this unreasonable terror of cats. Neither can we. In fact, it is to us inexplicable. We should never, for our part, provide an addition to Dr. Mitchell's case records. One among these graceful and agile creatures usually occupies a welcome place at our hearthstone. We recall with no little regret a cat that has recently passed from our home, whose acrobatic feats, such, for instance, as enabled her with ease and nonchalance to lick her off-hind toe, were wont to attract our interested attention. We miss, also, the genial and companionable manner in which she was wont to join us in midnight depredations upon the family larder on returning home from a difficult and fatiguing case. We eventually consigned her to the care of a society of maiden ladies whose gracious mission in life was to safeguard the happiness and welfare of cats and preserve them from the designs of wicked boys and like cruel vicissitudes. We were sure that in such keeping she would be safe from harm. This course may seem to have been unfeline. But we were driven to it by reason of the many inconveniences which were the result of her persistently and hopelessly disreputable character.

PHTHISIOPHOBIA.

THIS abberation of the communal mind, which exists to a deplorable degree and is the cause of so much undignified conduct and such inhumane attitude toward the consumptive, has little room for existence. We know the methods of infection—principally from human sputum, not so often by ingestion, and very occasionally by inoculation; and that, unlike the contagious diseases, the contact must be frequent, repeated and long continued if consumption is to be communicated. Terrors of all sorts are invariably dissipated immediately knowledge and understanding are arrayed against them; and with the comprehension of these facts concerning this disease, one must lose his absurd fear and should with equanimity return to sane, reasonable Christian behavior.

It is really deplorable to consider the degree to which this phthisiophobia has driven people. Consumptives must perforce give up light work, such as many are sadly in need of. Employers will not engage such men; they are not going to run any risk of catching the disease, not they. Here a clerk suspected of phthisis is discharged; there a woman loses her place because it is whispered "there is consumption in her family." Even our powerful government at Washington—powerful enough to be merciful—sees to it that it phthisical employees shall be dismissed without pension. The work of the postman, so innocuous and so suitable for many cases of incipient phthisis, has cruelly been denied such sufferers. The Treasury authorities and the Commissioner of Immigration have decided tuberculosis to be a contagious disease, despite the protests of eminent physicians; and have ruled that entrance into these United States of such alien sufferers be prohibited. (We are glad to note, however, that this ruling is not strictly enforced, and that not many cases are turned back. Surely, for their own sakes advanced consumptives should not endure the hardship of emigration and, in most cases, poverty, in addition to the suffering caused by their disease).

A Pennsylvania town makes the asinine regulation that barbers shall not shave consumptives. The city of Redlands in California has passed an ordinance making it an offense punishable by fine or imprisonment for any one to erect a sanatorium within the city limits. Disregarding for a moment the inherent inhumanity of this procedure, one must note that while this ordinance continues on the statute books consumptives are scattered over the entire community, in hotels, boarding and lodging houses, private houses, tenements, hovels, propagating the disease and knowing not how or taking no care whatever to act against the spread of the infection.

Some time ago the health authorities of this city, seeking some means to alleviate the appalling suffering and loss of life among the citizens from consumption found a healthful spot appropriate for a sanatorium, in which a few among these forty thousand wretched sick might find some relief and at least rest; and it was at the same time sought to obviate the danger to the rest of the community from infection after the manner just set forth. It so happened, however, that the establishment of such a sanatorium upon this site would be displeasing to a single individual owning vast tracts in that region. Wherefore insidious influences were brought to bear, with the result that the unspeakable Goodsell-Bedell Bill was passed, by which it has become impossible to establish a sanatorium for consumptives anywhere within this State. The Health Department's efforts to this end have since been repeatedly frustrated. Only the other day an individual in whose cosmos there is an absurd preponderance of the ego brought successfully an injunction against the Department, which sought to establish a tuberculosis dispensary for the poor of Brooklyn. How incongruous this situation is may be emphasized by the fact that in Manhattan Borough there is a large reception hospital for cases of scarlet fever—a disease much more infectious than consumption—situated on 16th street, adjacent to the most crowded region in the world. Yet no one either fears or has reason to fear its proximity.

Bulstrode cites that in an English town there is a sanatorium for the relatively poor, which has been inaugurated by the energy and philanthropy of a medical lady of eminence. The rector of the parish forbade his curate to visit at this institution because, as he declared, the disease is as dangerous as smallpox. When passing the sanatorium this precious smircher of his uniform crosses to the other side of the road. "It remains for the future to decide," observes Bulstrode, "whether the rector or the patients shall be furnished with the leper's rattle with which the arrival of one or another may be duly notified."

It is an uphill fight—this fight against phthisiophobia—for it is a fight against stupidity and prejudice and cowardice; all factors much more difficult to contend with than crime and rascality. "Against stupidity the gods themselves contend in vain," declared Schiller. He was himself a consumptive, this great poet; perhaps his observation was founded upon a personal struggle with such difficulties as these here presented.

TREATMENT OF PROSTATE TROUBLES.

THE prostate gland is unknown until age begins to creep upon the scene. It is characteristically the trouble that comes with advancing years and the management of it changes. As yet surgeons have spent much time and endeavor over the subject and from time to time a lightning flash illuminates the scene, only to die away leaving the scene enveloped in deeper darkness. Many suggestions have been made in prostatectomy that have from time to time been followed out. Guyon, Woolsey, White, Horwitz and Fenwick have all proposed various operations, instruments and ideas in the past fifteen years. Castration was proposed fifteen years ago by White, but the severest criticism of this treatment has come from the patients themselves. They object as a rule most strenuously to being castrated. Last June before the section on surgery of the American Medical Association, Young proposed a new technic which he termed "conservative perineal prostatectomy." In a recent issue of the *Journal of the American Medical Association* this paper is published. Young has operated in about two hundred cases of enlarged prostate and he believes that perineal prostatectomy is the safest method for relieving prostatic obstruction; that it is a comparatively benign operation; that spinal anesthesia is a valuable adjunct in feeble cases; that with appropriate retractors and traction the prostate can be exposed almost by blunt dissection, no important structures being divided, and the enucleation of the enlarged lobes can be carried out under visual inspection in a shallow wound; that all forms of enlargement, even great intravesical middle lobes, can be drawn down and removed through the perineum, and generally without tearing the bladder, the urethra or the ejaculatory ducts; that the sexual *puissance* is thereby preserved in the majority of cases; that normal urination is established (may be after more than ten years of catheter life), and that incontinence is almost unknown; that the time has come for blind operations and the foolish fad of removing as much as possible of the prostatic urethra to end and for the surgery of the prostate to be done according to the dicta of modern surgery, under visual inspection and with due care of useful and non-obstructive tissues—the urethra and the ejaculatory ducts.

The especial points in Young's procedure are the use of tractors for exposing the parts for operation and the careful dissection of the offending hypertrophy. He preserves the ejaculatory ducts and the floor of the urethra without retaining any obstructive tissue. If a median lobe projects, it can be drawn by the tractor into one of the lateral cavities and there enucleated without disturbing the urethra or the ejaculatory ducts. Epidydimitis is not common following this operation; complete continence of urine is generally present as soon as the perineal tubes are withdrawn and the sexual power is uninjured. Taken all in all, this paper of Young presents a distinct advance in the surgery of the perineum.

THE X-RAY IN HIP-JOINT DISEASE.

THE X-ray is rapidly reaching its proper status in medical work; the recent paper of Lorett and Brown read before the American Orthopedic Association (*N. Y. Medical Journal*) deals decisively with its use in hip trouble. They formulated the following questions:

1. What proportion of cases diagnosticated as hip disease from the X-ray, presented a typical clinical history, and what proportion of such cases did not have such a clinical history?
2. What was the later history of cases diagnosticated as normal from the X-ray?
3. How late in the history of hip disease does a "normal" radiograph appear?
4. What are the characteristic appearances of the radiographic in hip disease?
5. What radiographic appearances go with shortening and deformity?
6. What similar conditions are found which the radiograph will differentiate from hip disease?
7. What are the sources of error in diagnosticating hip disease from the radiograph?

One hundred cases were examined by the X-ray and diagnosed exclusively by its use; subsequently this diagnosis was verified by the clinical history. Sixty-one cases of hip disease were correctly diagnosed by the use of the X-ray. The earliest changes seen in the radiograph are a diminution in the density of the shadow and a diminution in its relative size. This shows atrophy which precedes bony thickening, erosion and loss of substance. Bony thickening is easily recognized by the X-ray, as is erosion. In only five cases were any errors made in diagnosis out of the hundred consecutive examinations. In two of these hip disease was diagnosed when it was not present. Here the writers were misled by extra articular collections of pus. In only three cases out of three hundred was the diagnosis wholly wrong. Surely the X-ray in the hands of capable investigators is a valuable adjunct to clinical diagnosis in hip trouble.

BIBLIOGRAPHICAL

Maternitas: A Book Concerning the Care of the Prospective Mother and Her Child.—By Charles E. Paddock, M.D., Professor of Obstetrics, Chicago Post-Graduate Medical School; Assistant Clinical Professor of Obstetrics, Rush Medical College. Chicago: Cloyd J. Head & Co., 1905. 12mo, pp. 189. Price, $1.25.

This book can be unqualifiedly commended for the purpose intended.

Manual and Clinical Repertory of a Complete List of Tissue Remedies. (Biochemistry and Cellular Therapy.)—By Dr. Med. Eric Graf von der Goltz. 224 pp., 12mo, cloth, $1.25. Postage, 6 cents. Philadelphia: Boericke & Tafel, 1905.

This manual is intended as a guide in the practice of medicine with what are called tissue remedies. Practitioners who use the system, will be interested in this book.

A new edition of Gray's Anatomy is announced by Messrs. Lea Bros. & Co., to be published about midsummer, and embodying nearly two years of labor on the part of the editor, J. Chalmers DaCosta, M.D., of Philadelphia, and a corps of special assistants.

The editor and publishers have spared neither labor nor expense to keep "Gray" at the forefront of anatomical knowledge, and there seems to be no reason to doubt that its next fifty years will pass as smoothly and as successfully as have those of the past.

Thoughts for the Rich.—By Austin Bierbower. New York: Fowler & Wells Co. Price, 25 cts.

The first chapter of this little *brochure* is addressed to those about to become rich, and it gives some good advice in respect to the use of money.

The Historical Relations of Medicine and Surgery to the End of the Sixteenth Century.—An address delivered at the St. Louis Congress in 1904.—By T. Clifford Allbut, M.A., M.D., Regius Professor of Physic in the University of Cambridge, Fellow of the New York Academy of Medicine. London and New York: The Macmillan Company, 1905. 12mo, pp. 125. Price $1.00.

An interesting and most scholarly address, full to the brim with historical information.

Psychology and Pathology of Handwriting.—By Magdalene Kintzel-Thumm. New York: Fowler & Wells Co., 1905. 12mo, pp. 149. Price, $2.00.

The author in order to give her graphological observations a psychological base, and not finding one in existence to suit, has constructed one for herself. The book is divided into three parts, the last one being devoted to the handwriting in disease, and its value in differential diagnosis. The text is fully illustrated.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition.—By Dr. Carl von Noorden, Physician-in-chief to the City Hospital, Frankfort, A.M. Authorized American Edition translated under the direction of Boardman Reed, M.D., Professor of Diseases of the Gastro-Intestinal Tract, Hygiene and Climatology, Temple College; Physician to the Samaritan Hospital, Philadelphia, etc. Part VI. Drink restriction (thirst-cures), particularly in Obesity.—By Prof. Carl von Noorden and Dr. Hugo Salomon. New York: E. B. Treat and Company, 1905. 12mo, pp. 86. Price, 75 cts.

It is always a pleasure to welcome anything from the pen of Prof. von Noorden, who is one of our greatest authorities upon disorders of metabolism and nutrition.

In the discussion of this important subject, the author says very pertinently that "one should never forget that the restriction of liquids is no indifferent procedure," and that the physician should "realize the great responsibility he is assuming, and carefully weigh all the circumstances in each individual case. Applied correctly and within wise limits, the method of restriction, however, is as important as, under certain other conditions, the opposite method of flooding the organism with large quantities of liquid."

Lea's Series of Medical Epitomes.—Edited by Victor C. Pedersen, M.D. -

Arneill's Epitome of Clinical Diagnosis and Uranalysis.—A Manual for Students and Practitioners.—By James R. Arneill, A.B., M.D., Professor of Medicine and Clinical Medicine in the University of Colorado, Physician to the County Hospital and to St. Joseph's Hospital, Denver. In one 12mo volume of 244 pages, with 79 engravings and a colored plate. Cloth, $1.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

This series will comprise twenty-two volumes, of which this is the seventeenth. The volumes are uniformly excellent, modern and trustworthy, and well adapted to the needs of students and to preparation for College and State Board Examinations.

The present volume contains up-to-date information on the subjects of which it treats. Illustrations have been freely used.

A Treatise on Hygiene and Sanitation. For Students, Practitioners, Health Officers, etc.—By Charles Harrington, M.D., Assistant Professor of Hygiene in Harvard University Medical School, Boston. New (3d) edition, thoroughly revised, octavo, 793 pp., with 118 engravings and 12 plates. Cloth, $4.25, net. Lea Brothers & Co., Philadelphia and New York, 1905.

This work, which has been found worthy in one of the most important branches of medicine, has been thoroughly revised and a new section added on Infection, Susceptibility and Immunity. The book covers the whole subject, clearly and comprehensively, and may be considered authoritative. The fact that two large editions have been exhausted in less than four years, indicates the favor with which it has been received by the profession. It is well adapted to the needs of the student, the practitioner and the health officer.

Practical Dietetics with Special Reference to Diet in Disease.—By W. Gilman Thompson, M.D., Professor of Medicine in the Cornell University, Medical College in New York City, Visiting Physician to the Presbyterian and Bellevue Hospitals. Third edition, enlarged and thoroughly revised. New York and London: D. Appleton and Company, 1905. Octavo, 846 pp.

The present edition of this practical work has not only been revised throughout, but much new matter has been added, particularly in regard to digestibility of food stuffs; the subject of obesity; the diet in acute rhinitis; the diet for diabetics; the diet in scurvy and in young children, and an elaborate article on fats and oils. There are also a number of new tables, which are of practical application.

The book is founded upon the basis that the sick cannot be fed according to "hard and fast" rules, but the problems of right feeding in disease must be studied in the light of clinical experience, and modified to meet ever changing conditions.

The subject of dietetic treatment of disease is fast assuming the position which its importance demands, and every practitioner in order to do good work requires a book of this kind, and there is none better than the one under review.

A Treatise on Acute Contagious Diseases.—By William M. Welch, M.D., Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases; Diagnostician to the Bureau of Health, etc., Philadelphia, and Jay F. Schamberg, A.B., M.D., Professor of Dermatology and of Infectious Eruptive Diseases, Philadelphia Polyclinic; Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases, and Assistant Diagnostician to the Philadelphia Bureau of Health, etc. 781 pp., illustrated with 109 engravings and 61 full-page plates. Cloth, $5.00, net; leather, $6.00, net; half morocco, $6.50, net. Lea Brothers & Co., Philadelphia and New York, 1905.

The experienced authors present a most practical treatise upon an important subject of the greatest interest to the student and the general practitioner. The text is based upon the study of a vast number of cases, and this, with the photographs of typical cases, in the successive stages of the various diseases, makes diagnosis comparatively easy. The subject of smallpox is most graphically portrayed and illustrated, in the interest of diagnosis. Scarlet fever, diphtheria, and the other acute contagious diseases, are all studied from a similar view point, the supreme object being to make the book of every day use. The subject of treatment is fully covered in minute detail. Our readers can make no mistake in ordering this book, as it will be found to meet their wants in respect to diagnosis and treatment of many common diseases, as well as some that occur more rarely.

A Treatise on Plague, dealing with the Historical, Epidemiological, Clinical, Therapeutic and Preventive Aspects of the Disease.—By W. J. Simpson, M.D., Aberd., F. R. C. P., Lond., D.P.H. Cambridge Professor of Hygiene, King's College, London; Lecturer on Tropical Hygiene, London School of Tropical Medicine; formerly Health Officer, Calcutta; Medical Adviser to the Government of Cape Colony, during the outbreak of plague in 1901; Commissioner for the Colonial Office to inquire into the causes of the continuance of plague in Hong Kong. Cambridge: at the University Press, 1905. New York: The Macmillan Company, large octavo, pp. 466, price $5.

This volume presents in moderate compass the principal facts concerning plague, from its various aspects. The text is written in most readable style, and will not fail to interest any one who attempts it. The subject is treated elaborately enough for general purposes, as it gives the main points of the disease and treatment, in concise, plain language.

The book is worthy a wide reading in this country, where we know very little about the subject of which it treats.

Enlargement of the Prostate, its history, anatomy, ætiology, pathology, clinical causes, symptoms, diagnosis, prognosis, treatment, technique of operations, and after-treatment. By John B. Deaver, M.D., Surgeon-in-chief to the German Hospital, Philadelphia, assisted by Astley Paston Cooper Ashhurst, M.D., Surgeon to the Out-patient Department of the Episcopal Hospital; Assistant Surgeon to the Orthopædic Hospital, and to the Dispensary of the German Hospital. Illustrated with 108 full-page plates and a colored frontispiece. Philadelphia: P. Blakiston's Son & Co., 1905. Large octavo, pp. 266.

The author has added another to his list of superb works upon important surgical subjects.

This volume has been prepared with a view to its being representative of the subject of which it treats, and while it includes the experience of other observers in this field of research, the author has been able, from his vast experience, to make his work much more than a compilation; it is largely original. The illustrations are excellent, are mostly original, and cover every important phase of the subject in all its aspects. The treatment, other than operative—and this forms by far the largest part of actual practice—has received the attention its importance demands. The work will be found of practical value to surgeons and to general practitioners who have prostatics under observation. The physical part is in the publishers' highest art. -

Outlines of Inorganic Chemistry.—By Frank Austin Gooch, Professor of Chemistry in Yale University, and Claude Frederic Walker, Teacher of Chemistry in the High School of Commerce of New York City. New York: The Macmillan Company, 1905. Octavo, pp. 514.

This excellent book, written by experienced teachers, presents a new plan of study of an important and difficult subject, the aim being to consider the simplest and fewest things. The experimental phenomena are placed in such relation that the inferences may not be missed—a most important object. Much care has been taken with the introductions to group characteristics, and with the summaries, covering relations in detail. The work will be found best adapted to the higher school and the literary college, preparing the way for the more elaborate treatises required in advanced scientific study. The book can be safely commended to students.

Meals Medicinal: with "Herbal Simples," (or Edible Parts) Curative Foods from the Cook; in Place of Drugs from the Chemist.—By W. T. Ferine, M.D., Author of "Herbal Simples," "Annual Simples," "Kitchen Physic," etc., etc. Bristol: John Wright &Co., 1905. Pp. 781, octavo; price, 7/6, net.

The leading motive of this work is to instruct the reader, how to choose meats and drinks, which can afford precisely the same remedial elements for effecting cures, as medicinal drugs, in other words it is a culinary "materia medica." The text is pregnant with fact and sufficient fiction, is wittingly interwoven, to keep the reader amused and still remain interested, if not fascinated. The book is not intended exclusively for physicians, but we must say its perusal will be of great profit to any reader.

Ailments of Women and Girls.—By Florence Stackpole, Certificated London Obstetrical Society, Author of "Advice to Women on the Care of Their Health Before, During and After Confinement." Bristol: John Wright & Co., 1904. 12mo; pp. 238. Price, 2/, net.

The text is written in simple language, for the purpose of acquainting women with the chief physiological functions of their bodies, with some simple methods of treatment of slight affections, unworthy the attention of a physician. It is a suitable book to advise for the purpose intended.

The Art of the Musician. A Guide to the Intelligent Appreciation of Music.—By Henry G. Hanchett. New York: The Macmillan Co., 1905. 327 octavo pp. Price, $1.50.

This book is intended to stimulate investigation of the intricacies of music, to emphasize the distinction between the real study of music and the study of the arts of playing and singing, and to supply the demand of those mature lovers of music, who wish to understand the aims and purposes of a composer, in order that the listening to music may be more intelligent and, hence, enjoyable. Dr. Hanchett has produced a book that will interest any person who understands musical notation.

A Hand-Book of Nursing.—Revised Edition for Hospital and General Use. Published under the direction of the Connecticut Training-School for Nurses, connected with the General Hospital Society, New Haven. Philadelphia and London: J. B. Lippincott Co., 1905. 12mo, 319 pp.

The present revised edition of this little book, provides instruction for nurses in private families, in addition to the hospital course. It will assist the nurse in the intelligent performance of her daily duties.

The Eye, Mind, Energy, and Matter.—By Chalmers Prentice, M.D., Chicago, Ill. Published by the author, 1905. Pp. 131, 12mo.

The first part of this book is intended for the general reader. Drukenness is considered a nervous disease, and its cure is claimed by the use of what are termed "repression" glasses, the purpose of which is to set the nerve centres at rest. The book is really intended for the layman.

An Introduction to Chemical Analysis for Students of Medicine, Pharmacy and Dentistry.—By Selbert W. Rockwood, M.D., Ph.D., Professor of Chemistry and Toxicology, University of Iowa, Author of "A Laboratory Manual of Physiological Chemistry. "Second revised edition; illustrated. Philadelphia: P. Blakiston's Son & Co., 1904.

This is a most useful little book for the purpose intended, as it paves the way to the more elaborate works, which are beyond the beginner, and cannot be understood. It is like attempting to read, without knowing the A, B, C.'s. The book is designed to furnish a scientific basis for more technical courses and to give the familiarity with chemicals and manipulative methods, which is so necessary in some lines of medical work. A series of questions will be found at suitable places, which facilitate the study for both student and teacher. The book is commended.

Bulletin of the Ayer Clinical Laboratory of the Pennsylvania Hospital, January, 1905.

This bulletin contains A Study of the Bone-marrow in Typhoid-Fever and other Acute Infection, Studies on the Basophilic Granulations of the Erythrocyte in lead-poisoning and other conditions, with special reference to the relation which they bear to the Nuclei of the red blood corpuscle; The Relation between Congenital Malformations of the Heart and Acute Endocarditis with Report of Two Cases, and The Report of a Case of Malignant Tumor of the Testicle Resembling Chorio-epithelioma with Metastasis.

Fifth Annual Report of the Work of the Cancer Laboratory of the New York State Department of Health, Conducted at the Gratwick Research Laboratory, University of Buffalo.

An interesting and instructive collection of essays, of service to any student of this important subject.

The Practical Medicine Series of Year Books, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D. Volume I, General Medicine, Edited by Frank Billings, M.S., M.D., Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M.D., Professor of Medicine, Chicago Clinical School. Series 1905. Price, $1.00, Volume II, General Surgery, Edited by John B. Murphy, M.D., Professor of Surgery, North Western University Medical School. Price, $1.50.

The volume on general medicine contains valuable contributions on a great variety of subjects of a practical character in the form of a review of the literature in the most condensed way possible.

The volume devoted to general surgery contains 545 pages, and is much larger than the one devoted to medicine. This volume shows a vast amount of work by the editor, and he has again reproduced extensively articles based upon large experience of single individuals, rather than upon the lesser experience of the greater number.

These books have become justly popular with the profession. The series of 10 volumes costs only $5.50.

The Registration of tuberculosis is coming more and more to meet the favor and to enlist the co-operation of physicians, as should be the case. No great advance in the prevention and cure of this disease can be hoped for, unless cases are notified to the health authorities and registered. A continued agitation in favor of this measure is likely to bear early fruit in Ontario. The Maryland Legislature has passed a law regarding tuberculosis which requires notification within seven days upon special blanks provided by the Board of Health, This information is confidential. In many other communities the necessity for these steps is becoming apparent.

The lunch-counter towel should certainly be abolished, as an exchange urges. It is among the more mischievous of the avoidable means of conveying contagion. Was it not a tale of Mark Twain's—that of an irate hotel clerk who told a squeamish and objecting guest that he was the "fiftieth man who had used that towel and the first man to kick"?

CORRESPONDENCE

"HARVARD CANCER COMMISSION."

To the Editor MEDICAL TIMES:

I was attracted by the following report of the "Harvard Cancer Commission" which appeared in the February number of the *Dominion Medical Monthly.*

"The Harvard Cancer Commission, it is understood, will report shortly that cancer is neither hereditary nor contagious, and that it is not of parasitic origin. The report will also state that excision is the only cure except in the case of small superficial growths, which may be cured by radiotherapy."

I have closely studied the subject of cancer for the past twelve years and for twelve years before that I had successfully treated many cases.

About ten years ago I advanced the idea that cancer is infectious and gave verifying data. I believe that cancer is not only infectious but also hereditary, and I know that most, if not all cancers can be cured with or without the knife.

I will be interested to see the report of the Commission and to learn how they have arrived at the above conclusion. If they say cancer cannot be cured, they issue a challenge which will doubtless be taken up by many physicians who are successfully treating these cases by various methods.

When the internal organs have become seriously involved and general sepsis prevails, the accredited method of treatment offers little, but when the disease is confined to external parts of the body it can usually be successfully removed.

I consider that these local manifestations are secondary and not primary effects of the disease, as is usually held. Preventive measures are as effective in these cases as they are known to be in many other diseases.

It is evident to every one that as long as the blood remains healthy, no disease can exist. Our only hope in successfully treating cancer is to restore or re-establish a normal condition of the blood.

It is now an established fact that there are many ways of so thoroughly oxidizing the blood that the disease-engendering matter within it is rendered innocuous and eliminated.

Allowing that the local manifestations of cancer are always secondary, does it not look reasonable that better results will be secured by coupling local treatment with such measures as will purge the system of the pernicious and infectious primary conditions?

Now that we know that Bright's Disease and Diabetes are both secondary affections *and can be cured,* why should we not expect as much for cancer?

It seems to me that most cancer patients die from the want of some specific treatment, and for this reason, cases are allowed to run on until they become hopeless.

One of the Harvard Commissioners recently told a personal friend that the Commission knew no more now on the subject of cancer than when it began its investigations. It would seem from this that the lines upon which the Commission has been working are as conservative as Boston herself.

7 W. 58th St., N. Y. G. LENOX CURTIS, M.D.

Dr. F. Llewellyn Barker, formerly Professor of Anatomy, at Rush Medical College, in Chicago, has succeeded Dr. Osler, in the Chair of Medicine at Johns Hopkins University.

THE CLINIQUE

STUDY OF A CASE OF TUBERCULAR PERITONITIS.

Treves has pointed out that in the large proportion of cases of fatal peritonitis the leading symptoms are those of poisoning and not of inflammation; also that the cases in which suppuration is most pronounced are among the most favorable forms of peritonitis, while the most acute and unfavorable cases are those which show the least inflammatory changes. Localized peritonitis occurs in those regions which are unoccupied by the coils of the lesser bowel; while the front, which is apparently most sensitive to infection and which is most prone to rapidly spreading and diffuse inflammation, is that which covers the small intestine. Treves has noted the comparative invulnerability of the peritoneum in those who are the subjects of chronic peritonitis, or of repeated sub-acute attacks due, in his opinion, to an acquired immunity to septic trouble.

The following classification of peritonitis, according to its cause, appeared to be justified by our present knowledge of the subject: (1) Peritonitis due to infection from the intestine (bacterium coli commune). (2) Peritonitis due to infection from without (pyogenic cocci, especially streptococcus pyogenes). (3) Peritonitis due to the pneumococcus. (4) Tubercular peritonitis. (5) Peritonitis of doubtful nature: (a) peritonitis due to irritants; (b) forms reputed to depend upon rheumatism, gonorrhea, syphilis, Bright's disease, and alcoholism; (c) peritonitis in the new-born. The bacterium coli commune can produce pus after inoculation, and these various forms of peritonitis which are assumed to be of intestinal origin, depend mainly, and in many instances entirely upon the bacterium coli commune; pathologists have not yet proved the production of peritonitis by non-infective irritants, but injury done by such irritants seems to favor the action of pathognomonic bacteria. The possibility of rheumatic peritonitis is doubtful, and that associated with gonorrhea is probably not due to the gonococcus which will not live in the peritoneum, but rather to pyogenic infection of the genital discharges and extension to the peritoneum. The peritonitis alleged to be due directly to Bright's disease, alcoholism and syphilis, would seem rather to occur under conditions favorable to bacterial growth, or to be due to extension from parts already inflamed. Peritonitis in the newly-born is due either to extension from an inflamed cord or to rupture of the bowel from any cause. Meteorism depends almost entirely upon gross disturbances in the circulation of blood through the affected portions of intestine. Vomiting is the most constant symptom of peritonitis, while it is usually absent in cases of gastric perforation.

Treves says, in discussing the use of aperients in peritonitis: "In the peritonitis following hernia, or associated with acute intestinal obstruction, the complete evacuation of the bowel is desirable for reasons which are apart from the peritonitis. In septic peritonitis—in the usual acceptation of the term—aperients are useless, and the same may be said of their employment in true perforative peritonitis. In a large proportion of examples of perityphlitis, and in the pseudo-ileus which may follow after operation, the prompt evacuation of the bowels is often attended with the very best results."

The chief cause of abdominal dropsy can be divided into two classes: (1) Obstruction to the flow of blood through the portal system; (2) Irritation and inflammation of the peritoneum. Since nearly all the blood of the portal circulation passes through the liver, the greatest obstruction to this circulation is caused by disease, in, or in the neighborhood of this organ; cirrhosis, syphilis and carcinoma being the affections of the liver which most frequently give rise to ascites, any growth which, by its pressure, occludes, in whole or in part, the portal vein may be followed by the same result; cirrhosis of the liver being undoubtedly the commonest cause of ascites. This new-formed connective tissue is similar to that which forms the scar and, like all cicatricial tissue, is no sooner formed than it begins to contract. This contraction, of course, compresses the ramifications of the portal vein, and causes more or less obstruction to the flow of blood. Venous stasis of the portal radicles results and may be so great as to cause rupture of the vessels of the stomach or intestines, manifesting itself by hematemesis and melena, or by enterorrhagia. Hematemesis or intestinal hemorrhage occurring in an intemperate man or woman should excite suspicion of heptic cirrhosis, but generally ascites is the first symptom which points to organic disease of the liver. All manner of gastrointestinal disturbances may have preceded the dropsy and they are not, as is supposed, merely functional in their nature. Congenital syphilis probably accounts for many of the cases of hepatic cirrhosis in children. In cases of acquired syphilis of the liver there will be other external signs of the systemic condition, such as the cicatrix of the primary lesion, as well as the scars of sceondary lesions, a history of cutaneous eruptions, sore throat and the falling out of hair.

Wilson, in perforation-peritonitis, has drawn attention to the important position which surgical treatment has attained in this disease; he claimed that physicians are less advanced in treating this condition than are surgeons, and are less ready in diagnosis and in turning the case over to the surgeon. He believes that observation of the pulse and temperature is an unreliable method of diagnosis, regarding the most important symptom to be rigidity of the abdominal walls. He insists that operation must be undertaken within twenty-four hours after perforation, or the case might become hopeless. Keen agrees that the pulse and temperature are uncertain signs of abdominal sepsis, and that rigidity is a sign of great value. He also insisted upon early operation, and advised two incisions with through-and-through flushing and wiping the intestine as clean as possible, in order to obtain thorough cleansing of the abdominal cavity. In typhoid fever he considers the appearance of distinct abdominal pain a grave symptom, and one that should always make one fearful of possible perforation.

Stockton has drawn attention to the fact that in perforation of hollow viscera, such as the bladder or the stomach, the course is usually very acute and violent; while rupture of the solid organs or of abscesses forming in these organs is usually preceded by less violent and less distinctive symptoms, so that abruptness of onset indicates perforation of a hollow viscus. The localizing diagnosis, however, is often difficult, as was seen in a case of his own, in which the local symptoms all pointed to perforation of the bladder, while the autopsy showed that the perforation was of the stomach. Abdominal rigidity may be absent, and yet, especially in cases of disease of the pelvis, rectal examination will show rigidity of the pelvic muscles.

Hepatic carcinoma is almost invariably secondary to carcinoma in some other organ, such as the stomach, pancreas, cecum and rectum; so when it has involved the liver to such an extent as to give rise to ascites the patient is in a very cachectic condition; whereas, our patient presents none of the signs of advanced cachexia. Moreover, cancerous deposit in the liver always increases the size of the organ, sometimes to an enormous extent; such a liver can almost always be felt projecting below the costal border, whereas, in our patient, no enlargement of the liver can be detected, so his disease is probably not situated in the liver. Let us now search for it outside of the liver, and starting at its portal, we first have to consider thrombosis of the portal vein, pylethrombosis, as it is called. There can be no doubt that the most complete obstruction to the portal circulation is caused by thrombosis of the portal vein. This, however, never occurs as a primary affection, but is the result of pressure by new growths or enlarged glands in or near the hilus of the liver. It may also be the result of cirrhosis, occurring in the last stages of that disease. Pylethrombosis may be positively excluded, since there is evidence of abdominal tumor, and enlarged glands on the under surface of the liver voluminous enough to compress the vena porta would almost inevitably obstruct the outflow of bile and gives rise to jaundice. Affection of the peritoneum may have caused the effusion; peritonitis, like pleurisy, is attended with more or less effusion, either serous or purulent, and it may be laid down as a rule applicable to both of these diseases that the amount of effusion is in inverse ratio to the acuteness of the inflammation. Opinions are divided as to the existence of such a disease as acute idiopathic peritonitis, and certainly the great majority of cases of peritonitis are secondary to inflammation of cecum, appendix veriformis, and genital organs; still, in my opinion, idiopathic cases are occasionally seen, especially in rheumatic individuals and in those suffering from Bright's disease. The onset in tubercular peritonitis is insidious. Chronic peritonitis is always secondary to visceral disease, being very apt to have its seat in the peritoneum covering the liver, and is known as perihepatitis. The peritoneum is often greatly thickened in this situation by inflammatory deposit and the tendency to contraction on the part of the effused lymph is sometimes so great as to cause the anterior border of the liver to curl backward upon the superior surface of the organ. That this alteration in the shape of the liver is caused by the contraction of the thickened capsule is proved by the fact that when the capsule is removed the liver returns to its normal shape. The compressed exercised upon the liver by perihepatitis is quite sufficient to give rise to ascites; perihepatitis is generally associated with kidney disease, whereas, in cirrhosis of the liver, the urine is generally normal. Before deciding it to be such it is necessary to consider the remaining affections of the peritoneum which give rise to ascites. These are cancerous peritoneum and tubercular peritonitis. The objections to regarding the case as one of cancerous peritonitis are identical with those raised in discussing the question of cancer of the liver: (1) It is generally secondary to cancer of one of the abdominal organs, those most frequently the seat of the primary disease being the stomach and ovaries; (2) It is exceedingly rare under thirty years of age; and, (3) It is decidedly more common in women. Tubercular peritonitis is insidious in its onset, abdominal pain being generally the first symptom complained of. There is usually tenderness on pressure, but this depends upon the seat of the inflammation. A favorite site is the under surface of the diaphragm, and, in such cases, tenderness on pressure may not be elicited. The most marked peculiarity of tubercular inflammation of the peritoneum is its tendency to transverse the diaphragm and attack the pleura. A concomitant pleurisy bears the strongest evidence in favor of the tubercular nature of a peritonitis, and vice versa. As a matter of course we now examine the chest, and we find marked dullness over the lower two-thirds of the left lung behind. In the same region the breath-sounds are extinguished, the voice distant and bronchial, and, at the upper limit of dullness there is well-marked egophony. The signs of pleuritic effusion are unmistakable, and if further proof be needed it is found in the fact that the pulsations of the heart may be plainly felt and seen to the right of the sternum. A cough may be regarded as due to simple bronchitis until an examination of the sputum revealed the presence of tubercle-bacilli.

The prognosis of tubercular peritonitis is by no means so grave as that of tuberculosis elsewhere, for many cases of tubercular peritonitis have recovered. The criticism may of course be raised that the diagnosis of these reported cases may have been faulty. This may be true with reference to some of the published cases, but such skepticism may be carried too far.

We cannot attribute the recoveries that have taken place to any specific plan of treatment; Fagge advocates the application of mercurial ointment to the abdominal surface, believing that this has been productive of good results, especially in children, while others report success from the local application of tincture of iodin. The abdomen must be tapped if the accumulation of fluid in the peritoneum becomes so great as to give rise to pressure symptoms, and the same remark applies to the thoracic cavity. Thus far there have been no indications for tapping either of these cavities. In fact, the effusion in the abdominal cavity has diminished somewhat since the patient's admission. General supporting measures are indicated and an occasional laxative to supplement by the bowels the deficient action of the kidneys which as revealed by the examination of the urine, are the seat of chronic inflammation.

Treves, in tubercular peritonitis, gives the precentage of cures as 69.8, and of complete recoveries as 33.4 in cases treated by laparotomy. With regard to drainage he says: "Drainage is not necessary, and indeed drainage of the whole cavity is impossible. The gauze drain is better than the rubber tube. Fistulæ have been somewhat common after the use of the tube." Park says that among the signs of tubercular peritonitis are reddening and thickening around the umbilicus which are due to extension of inflammation along the obliterated umbilical vessels, while Duran recommends the insufflation of sterilized air in these cases, reporting two successful cases. The air had previously been passed through caustic potash moistened with phenic acid. In both examples reported there was considerable reaction, as evidenced by fever, nausea, and tympanites, the latter lasting about eight days. Nolin also records three cases of tuberculosis ascites treated by insufflation of sterilized air. Two were apparently completely cured, the other died two months after from tubercular ulceration of the intestine; the ascites had however disappeared. Guignabert describes a method of treatment of tuberculous ascites which consists in partially emptying the peritoneal cavity of ascitic fluid, and then injecting through the cannula which is left in situ fine hypodermic syringefuls of camphorated naphthol, subsequently closing the puncture with an aseptic dressing. The immediate result is a more robust inflammation followed by a complete cure.

RETROSPECTIVE THERAPEUTICS

Mitral Stenosis is easily diagnosed in the first stage, states F. P. Henry (*Am. Med.*, May 20, 1905). There is then a presystolic murmur easily recognized by the fact that it is followed by the first and second sound both audible at the apex. The second stage is indicated by disappearance of the second sound at the apex, this being due to dilatation and hypertrophy of the right ventricle and feeble propulsion of blood into the aorta. The presystolic murmur (low-pitched and rumbling) continues. Many hold that the onset of the third stage is marked by disappearance of the presystolic murmur and the establishment of signs of tricuspid regurgitation; but Henry has found the presystolic murmur only exceptionally to disappear with the onset of these signs. He emphasizes another phase of mitral stenosis—an extreme arrhythmia, a "veritable delirium cordis," which may persist without intermission for months or years. In such cases there is no murmur; and it is impossible to distinguish the sounds from each other; the arrhythmia may be the only expression of the lesion. The picture of these cases is as follows: Marked anemia, with somewhat dusky skin and cyanotic lips, a tendency to bronchial catarrh, marked periods of improvement, with little or no diminution of the arrhythmia, and no edema, except when in extremis.

Disturbances sustained by telephone operators after electric shocks are described by Wallbaum (*Deut. Medic. Wochenschr*, May 4, 1905). According to the powers of resistance and the nature of the accident there will be fainting, clonic convulsions; attacks of weeping, swelling of the extremities, especially on the injured side, and disorders of sensation. Following upon these first symptoms severe headaches and dizziness appear, as well as erratic neuralgic disturbances which are most prominent during cold or stormy weather. There may be also cramp-like abdominal pain, hemiplegia, vasomotor paresis and other evidences of nervous exhaustion, such as the loss of power of mental concentration. Cardiac weakness is present in all cases —irregularity of the pulse, precordial pain, palpitation, etc. The prognosis is bad with regard to the resumption of telephonic work; otherwise great improvement may be obtained. The treatment consists of suggestion, static electricity, massage and baths. Faradism and bromides are to be avoided. Applicants for these positions should be examined with great care—such as have in their family history mental disorders or nervous diseases should not be engaged; and those whose parents have died of a severe chronic malady should be tested with especial care as regards the nervous and vascular systems.

From Seattle to St. Paul fresh milk can be shipped, we are assured by the *Post-Intelligencer* of the former city. This experiment has been tried with success, it is claimed, by W. H. Paulhamus, a well-known dairyman of the "Sound" region. This gentleman claims that milk can be drawn through the sterile tube into the sterilized bottles, and if from an absolutely healthy can, "will keep forever." He shipped a case of bottled milk to St. Paul. There was a dynamo in the car, which kept the temperature higher than it would normally have been and made the trial all the harder, yet it arrived in good condition. The secret of obtaining pure milk and having it remain so, it is claimed, is to keep it absolutely dirt free at all times and to cool it down as quickly as possible after being drawn from the cow.

Ergot and arsenic in chorea are advised by Rivierre (*Brit. Med Jour.*, Feb. 18, 1905). The fluid extract of Ergot ʒi-iss, combined with two minims of liquor strychninæ was given thrice daily with the result that about one-half of the cases were rapidly improved or cured. Most of those who did not respond to this treatment improved when arsenic was substituted. An effort was made—unsuccessfully, however—to separate by clinical features the type of cases responding respectively to ergot and arsenic. Recognizing that a division of choreics must be arbitrary, Rivierre divides his cases into rheumatic and non-rheumatic; into those with much and those with little voluntary control; into those with pronounced and those with slight movement; into first and later attacks. To none of these divisions was it found that ergot-cured patients necessarily belonged; examples were found in all classes. In some cases ergot was at first ineffective; arsenic on being administered, aggravated the condition, but immediate improvement or cure followed upon resuming the ergot. It then seemed best to combine the drugs; beginning with ext. ergot ʒi with three minims of liq. arsenicalis, the doses were guardedly increased. This mixed treatment gave good results in at least three kinds of cases; those that were benefited by ergot, those that are susceptible to arsenic, those—a few—where one drug seemed to supplement the other.

Buttermilk has been used for infant feeding in Holland from time immemorial, and its use has been greatly extended since Teixeira's researches reported in 1902. Massanek (*Jahrbuch für Kinderheilkunde*, Nov., 1904) studied this food during ten months on seventy-nine babies. The casein in buttermilk is suspended in a very fine state of coagulation. The amount of fat varies from one-fifth to one per cent. This buttermilk was obtained four hours after churning, and to each liter fifteen grains of rice flour and 60 to 90 grains of ordinary beet sugar were added. This is brought to a boil four times and then sterilized in a Soxklet apparatus for ten minutes. The preparation was taken eagerly by all the infants. Fewer cases of diarrhea occurred than before this diet, nor were any bad effects attributable to it observed. In the maternity hospital cases it was given alternately with the breast and was well-borne. No cases of sickness occurred among these buttermilk-fed infants. In this sterilized buttermilk the lactic acid bacteria are destroyed, but their product, lactic acid, remains. This acid has a disinfectant action and aids peptonization. While the reaction of the milk is strongly acid, the stools are always strong alkaline. Massanek concludes also that buttermilk can be fed to sick infants for long periods. It has the advantage of great cheapness.

Abscess of the liver in typhoid fever is a rare lesion, states S. Hugne (*Brit. Med. Jour.*, March 4, 1905). It is more likely to occur in cases of colon typhoid, and in patients wha have already suffered from some lesion of the liver, malarial or otherwise. Such abscesses may be single or multiple. The former may occur in either lobe and may resemble the large abscess of dysenteric origin; the contents are brown or yellowish-green pus, not always fetid. Multiple abscesses present the metastatic characters, such as occur in any infectious disease. They are in size from a lentil seed to a filbert. They may coalesce, the resulting cavity being distinguishable from that of the single abscess by its irregular walls. The pus here is fetid and pylephlebitis is usually present. The symptoms of metastatic abscess are indefinite; and, in the course of typhoid, naturally obscure. However, in the fourth or fifth week, there will develop pyemic symptoms, with enlargement and tenderness of the liver. There may be jaundice, which is more frequent than with solitary abscess. There is adynamia and death from septicemia. If an early diagnosis is made, surgical intervention may save the case. In favorable cases the prodromal symptoms are less marked—slight vigor with rise of temperature and often severe pain in the peritoneum. A fatal termination must be expected in cases not operated upon. If operation be not advisable—typhoids patients bear major operations badly—recourse may be had to puncture, which may be repeated.

Toxaemia of intestinal origin is ably discussed by H. A. Houghton (*Med. Jour.*, May 27, 1905), who recognized that successful inoculation of living tissue with pyogenic organisms require the presence of at least two factors: A "vital decrease" to such an extent that normal resistance to the infecting agent is impaired, and the actual presence of bacteria in sufficient numbers and of sufficient virulence to overcome the resistance offered. Houghton concludes that in many cases of vital decrease, manifested objectively by minor septic infections, toxaemia of intestinal origin may be regarded as a predisposing cause. This conclusion is very far-reaching. It would explain, for instance, why the surgeon finds that of two patients undergoing the same operation and fixity of technique, one will promptly recover and the other perhaps either take longer to recuperate or die of sepsis. In the domain of infectious medical diseases, why does one person contract typhoid fever when another does not? The practical application of this conclusion means attention to the proteid fermentation taking place in the bowel, particularly in those cases in which the urine presents a large amount of indican. It is not sufficient simply to produce evacuation of the bowels. The indicanuria must be treated by diet and other procedures looking toward its complete cessation. This will completely cure many cases of recurring minor infections.

The diagnosis of mild degrees of jaundice was studied by L. Syllaba (*Folia Hæmatologica*, 1904), who found in cases of pernicious anemia and chlorosis that bilirubin could be demonstrated in the blood when it could not be found in the urine, and concluded, as did Hamer, that the examination of the blood serum for biliary coloring matter is the most delicate and most satisfactory test for the presence of icterus. The latter's method is to use a small capillary tube (as in the Widal test), collecting 15 to 20 drops of blood; both ends of the tube are closed with wax and the tube is then laid aside for some hours until the serum thoroughly separates from the clot. Under normal conditions the serum is clear and like water or very slightly cloudy. In the beginning of jaundice it is yellow. This method is sufficiently accurate for all clinical purposes.

Gonococcus infection is found by E. Holt to be very frequent in children and one to be constantly reckoned with in institutions, especially in epidemic form; it is also very frequent in dispensary and tenement practice and not uncommon in private practice of the better sort. Milder forms and sporadic cases are extremely annoying because intractable; severe forms are dangerous to life through setting up an acute pyemia or infection of serous membranes. The highly contagious character of gonococcus vaginitis requires isolation as does also ophthalmia and acute arthritis from this cause. Otherwise it is quite impossible to prevent the spread of the disease in the wards of institutions. Cases must either be excluded or quarantined. For such isolation the systematic microscopic examination of smears from the vaginal secretion of every child admitted is essential, especially where there are purulent discharges. Such examinations are as imperative and should be as much a matter of routine as the taking of throat cultures in children with tonsillar exudates. In the absence of microscopic examination a purulent discharge in a young child may be assumed to be a gonorrheal. Quarantine to be effective must extend to nurses and attendants as well as to children; and the napkins, bedding and other clothing of infected children must be washed separately. Where the gonococcus is found with no or very slight vaginal discharge children should also be quarantined. A great difficulty here arises from the prolonged quarantine necessary from the fact that these cases are of very chronic character and very resistant to treatment. The danger to nurses from accidental infection, especially to the eyes, is considerable.

The plague-stricken districts in India were recently investigated by Dr. Charles Creighton who on his return to London gave the results of his experience (*N. Y. Evening Post*). The origin of the pest was traceable mainly to the exhalations of poison from the soil, which had been inhabited too long without drainage. These exhalations were especially dangerous at night, entering the windows of crowded sleeping chambers. Some of the mud villages were no better than pest holes. The plague-stricken villages of Satara are enclosed within a ring fence of bushes, sometimes with gates, and with the remains of a wall. Many of them have large and crowded populations, and the houses are nearly all built of mud upon earthen foundations. Dr. Creighton examined two in which there had been deaths a few weeks before. They were both old and crumbling, built of sheer mud, without plinths, and one-quarter of the village in which they stood was inhabited by butchers and cattle-dealers, so that the ground had become saturated with offal. Similar constructions were found in other places. At Jullunder the greater number of deaths occurred in a square block of houses of very remarkable formation—literally, a hive of some thirty or forty mud-cells. A narrow passage ran around the square, with doors at intervals in the dead wall. Entering near a corner of the square the doctor found a room which somehow held a cow or a bullock as well as the family and had a hutch-like opening in the flat roof, with a ladder to ascend by. On reaching the roof he discovered that it was a continuous expanse of thirty or forty small squares like those of a chessboard, marked off from one another only by a ridge of mud, one which he could step across, a distance of some forty yards, to descend by another ladder to the opposite corner. There appeared here to be "more need for the scavenger than the bacteriologist."

The Subway air in New York City is again engaging the attention of the Rapid Transit Commission. The occasional warm weather has brought complaints regarding the heavy, foul and stagnant air. At present the circulation between the subway and the street is due to three causes: the movement of trains forcing it in and out; winds blowing down the hooded stairways; and, the rising of the warm air from the subway and the descent of cold air to take its place. Probably the last of these has been the prime cause of the heretofore good ventilation, for, as the surface air ceases to be colder than that underground and the connection currents stop, the breezes and the piston action of the trains seem insufficient to keep the subway atmosphere fresh and clear.

"Hardening" in phthisis.—The following is based upon Cornet: A sensitive patient in the winter time begins with rubbings morning and evening—preferably by an attendant. He is put naked in a large coarse sheet, and then rubbed with long, quick strokes from head to foot so that, if possible, a strong glow may be brought to the skin. In a week or more the partial waist rubbing is begun. The patient lies in bed and his trunk and members are rubbed with a wash-rag wrung out of water (at 66° to 92° F.) until there is a ruddy reaction. Upon this the patient is covered again and rests for half an hour. Later, when the cutaneous vessels have begun to take on their normal functions, the full waist or wet rubbings are made use of with strong patients, especially in summertime. The patient may be taken directly from his bed and given the treatment upon an empty stomach; or weaker individuals may have a glass of warm milk or tea half an hour before; or a short wash or a dry rub may precede, in order to induce a good reaction. The patient, entirely nude, is wrapped in a cloth wrung out (later wet) in 5 per cent. brine, at 90° F., so that it comes in contact with the body all over, and is then rubbed by an experienced man, with long, powerful strokes, until there is an agreeable feeling of warmth over the entire body. A wet cloth may be laid on the head to guard against headaches. The entire rubbing lasts but one or two minutes, after which the patient is laid in a dry sheet and again rubbed. He dresses without delay, and goes out into the open air for at least half an hour. After his walk he takes breakfast. Weaker patients get into bed for another quarter of an hour. The temperature of the brine is lowered one degree daily down to 70° or 65° or even 60°. This full rub should be done quickly, energetically and expertly. Relatives and unskilled attendants should not undertake this work; headache, discomfort and chilliness may result.

"The douche" can be endured only by the very strong, and should be done in the doctor's presence. The duration should be gradually increased from five to forty seconds; the temperature should be from 90° to 95° F. or warmer. The patient must rub himself during the douche. After it he is dried, dresses himself and exercises in the air. The douches are absolutely excluded in very irritable cases and those with much expectoration; they induce forced breathing and may lead to the aspiration of sputum. The rubs do not serve to cleanse the skin and are no substitute for baths. They serve, however, to harden the body against variations of temperature, but also improve the appetite and nutrition, and favorably affect the mental conditions.

The Microbe of the Tsetse fly, it is reported from Paris, has been discovered by the bactriologists of the Pasteur Institute. This discovery, if verified, will be of enormous importance to South Africa, as it will lead to the immunization of horses, cattle and dogs against the virus of this dreadful insect, which is no bigger than a house fly, though rather more finely made. Of the color of a honey bee, with yellow stripes on the abdomen, it carries a short proboscis, with which it inflicts its sting. It is harmless to man and even to larger kind of game. Lately, the British South Africa Company, which is deeply interested in all schemes for eliminating the fly, made the experiment of introducing camels in Rhodesia from India. But these animals succumbed readily to the pest.

Hypertension is considered by H. Vasquez (*La Tribune Med.*) Physical examination may reveal accentuation of the aortic second sound, hypertrophy of the left ventricle, gallop rhythm, or doubled first heart sound. Direct palpation of the arteries is unreliable in theory and misleading in practice. There may be three forms: temporary, fluctuating or permanent hypertension. And these various forms may cause the following serious or fatal symptoms: cerebral, such as aurae, ocular, or disorders of intellect—transitory, aphasia or hemiplegia, convulsions or hemorrhage; cardio-pulmonary, such as angina or acute edema of the lungs; or urinary, such as albuminuria or glycosuria. The pathology is the result of the increased resistance opposed to the blood current—so state physiologists; while clinicians declare it to be the result of retention of fluids and hypertension and increased viscuosity of the blood. There are also arterial stenoses and loss of elasticity of the vessel wall and extensive peripheral vaso-constriction; perhaps there is also auto-constriction of renal origin. Tobacco and lead seem causative; "alcohol merely increases the susceptibility to infection and poisoning." (This corroborates the statement of Councilman concerning alcohol in arteriosclerosis, which we have noticed.)

The treatment consists in hygiene and rest, the iodides, amyl nitrate (in minute doses); lumbar puncture in cerebral complications; venesection in eclampsia; *hypodermatic injections of morphin (?)* in rapidly fatal complications like edema of the lungs. "They of course cannot prevent death, they will not hasten it, and they may certainly retard it."

Locomotor Ataxia.—G. Hinsdale (*Journ. Q. M. A.*, February 18, 1905), reports the gradual disappearance of symptoms in an apparently typical case of tabes without a positive specific history. The treatment was by rest, massage, electricity and educative movements; with nitrate of silver and belladonna internally. (The iodides were not tolerated in this case.) In eight weeks the weight increased forty pounds; albumen and casts disappeared from the urine; in three months the patient appeared quite well. After three years of usefulness he returned with similar symptoms. The same treatment (with the addition of gr. 1-20 bichloride b.i.d.), was employed, with like good results. This case emphasizes the value of rest treatment when employed sufficiently early, with electricity and massage or exercise. Cure is not here claimed; but improvement is very evident.

The cardiac area in childhood. *Guido Sindo* (*Brit. Jour. of Child. Dis.*, Vol. 1, No. 12) suggests that cardiac percussion in children should be light, trusting more to the resistance perceptible to the touch than to the ear. In the very young the heart is very high (second space), its position and direction almost horizontal, the apex 1, 2 or even 3 centimetres outside the mid-clavicular space. With increasing age the heart becomes lower (third space) and assumes a position and direction more vertical, the apex approaching the mid-clavicular line, and coinciding about the seventh year with the nipple; subsequently it is found below and inside it. From birth to the second year the heart undergoes rapid enlargement, then moderate increase to the ninth or tenth year, when it undergoes a further rapid development on account of the ever-increasing exigencies of the organism in response to the development of the genital system which is initiated at this time. The area of absolute dulness, which in the child is always relatively larger than in the adult, should be investigated in every case, together with the relative dulness; only this method is reliable.

The elastic abdominal belt for pertussis is described by Dr. T. G. Kilmer, who devised it, as a stockinette band placed about the sufferer in the same manner as the orthopedist puts on a plaster of paris jacket. The band extends from the axillæ to the pubes and fits the body snugly. Two muslin shoulder straps prevent slipping down. On the stockinette band a single width of silk elastic bandage is sewn, extending entirely around the body and covering the abdomen. This silk elastic bandage is of the same quality as that used for elastic stockings. For a child under one year but one width (five inches) of this elastic bandage will be found necessary, in an older child two widths will be found necessary to cover the abdomen entirely. This silk elastic bandage is pinned in place when very slightly upon the stretch, after which it should be sewn to the stockinette band underlying it, all around its entire edge; this procedure keeps the silk elastic belt flat and prevents its rolling up or becoming creased. The lower projecting portion of the stockinette band should be pinned down to the outside of the diaper or other clothing, thus keeping the elastic belt smooth over the abdomen. Out of eighteen patients on whom this belt was used, Kilmer says cough was relieved in twelve and vomiting in all but one. Any mother can make this band and belt with the materials here mentioned.

An "optologist" has invited Dr. A. Rose by letter to visit his dark room, where he uses his luminous electric ophthalmoscope, with the assurance that "if I have not yet seen his New York offices I have missed something." It is one of the most pathetic phases of life that we are all bound to miss something or other now and then, be cause of the mournful brevity of human existence and other reasons; but it is cruel to emphasize this misfortune. However, Dr. Rose, who happens to know his Greek and Latin very well, has never until now come upon the word optologist. Ethnologically it can mean only a wise cook, for optos is roasted or cooked; optiticos is somebody who understands to perfection how to roast; optologist must then be a wise roaster. We fear Dr. Rose stands to lose either way; if he does not visit the establishment of this wise roaster he will have "missed something;" if he does, he will undergo, we fear, precisely the same experience.

MISCELLANY

In Indiana, consumptives are not allowed to teach school.

Dr. G. Frank Lydston.—This accomplished writer of Chicago, has been made a fellow of the London Society of Authors.

Horse meat in tuberculosis is said to be advised by some French physicians, who claim that it is better than beef in such cases.

The London death rate for 1904 was the lowest ever recorded—12.9; and the number of cases of infectious disease was the smallest since notification has been made compulsory.

"**Coffee heart,**" characterized by the shortening of the first sound, is a term lately added by medical examiners for life insurance companies to their classification of functional derangements.

A medical degree at eighty has been secured by Phedor Maratzevitch from the Kieff University. This venerable man had studied medicine half a century ago, but did not then obtain a degree.

In utopian Sweden, doctors never render bills. The rich pay liberally; the poor as they are able; the very poor not at all. Yet the doctor attends all—as faithfully the one as the other. So we are informed!

Plaster of paris dressings are easily removed by immersing the part in a warm bath for twenty or thirty minutes, when the plaster becames so disintegrated that the bandages can be cut with ordinary scissors.

The sweatshop atrocity has about reached its limit, declares the *Journal A. M. A.*, in the case of a female infant of eighteen months, who was discovered at work in a tenement house. It was rolling balls in paste for the mother to work with.

Trichina in hogs is oftentimes brought about in a very loathsome manner, as stated in the descriptions in *Collier's Weekly*, in the Chicago stock yards. Hogs have a habit of catching rats about farm-yards and eating them, thus contracting trichinosis from these rodents.

A group of four eminent physicians, it is stated, will meet in London to sit for a group portrait to be painted by Mr. John S. Sargent. The idea originated with Miss Mary E. Garrett, of Baltimore, who will bear the expense of the painting. The four men are Drs. Welch, Halstead, Kelly and Osler.

From Darkest Russia comes a ray of sunlight more serene than any we have felt in this community. It takes the shape of an imperial edict to the effect that the families of physicians are entitled to a pension when the physician has succumbed to infection acquired while fighting epidemics in the public service.

A roof-garden to every house is a practical scheme which, it is rather surprising, has never been realized. Dr. Northrup describes in *The Medical News* (March 25) a roof-garden made at a cost of $150, which affords in all weathers, a safe playground for the children above the city dust and noise line, and allowing greater freedom in play than the street or the porch.

Formalin in milk has been found detrimental by Engel (*Zeitschr. f. Aerztliche Fortbr.*, No. 1, '05), who concludes that while the addition of formalin arrests the growth of bacteria in milk for the first two days, their development is hastened after that period in room temperature. Furthermore this chemical interferes with the coagulation of the milk and has a detrimental effect uopn the digestive apparatus.

The Association of American Medical Colleges adopted a uniform minimum curriculum at its meeting in Chicago on April 10. A high-school course of four full years, representing a certain specified number of hours' credit in each subject is an essential preliminary. A committee will pass upon the value of medical studies taught by colleges of liberal arts. The secretary-treasurer is Dr. F. C. Zapfee of Chicago.

A narcotic bomb is described by our much-esteemed oriental cotemporary, *Practical Medicine*, of Delhi (March, 1905). This bomb, which may be fired from any gun, was invented by an Austrian army-surgeon. There is a time fuse attached, which when dropped among the enemy will not explode, but will fill the air with narcotic gases strong enough to make two thousand men unconscious for several hours.

An iron ring from human blood is worn, states the *London Globe*, by M. Barruel, head of the chemical laboratories of Paris, who, having in his time practiced much phlebotomy on human subjects, has systematically extracted the iron from the blood collected. The metal was kept in the shape of minute globules or pearls, until it occurred to M. Barruel to have the whole welded into perhaps the most remarkable finger-ring in existence.

The cost of food per capita averages in America $70 a year, in France $48, in Germany $45, in Spain $33, in Italy $24, and in Russia $40. The American eats 109 pounds of meat a year, the Frenchman 87, the German 64, the Italian 28, and the Russian 51 pounds. The American consumes 380 pounds of bread, the Frenchman 540, the German 560, the Spaniard 480, the Italian 400 and the Russian 655 pounds, states the *Women's Medical Journal.*

Knives can be safely sterilized, it is declared, by chemical and mechanical means without the use of heat in any form; most surgeons are now using carbolic acid or alcohol or both; emersion in 95% alcohol has the least and boiling the most effect in dulling the edge of a knife. A good plan is to keep in close touch with an instrument maker who will engage at about 15 cents a piece to sharpen one's knives frequently and keep them always in such order that they will not fail to do good work.

Radium in skin diseases was discussed by Davlas (*Lancet*, March 4, 1905), who considered it effective in only three forms—tuberculous leprosy, a form of epithelioma (perle) and vascular naevae; and in these diseases only where the lesion is limited in degree. It is not superior to older methods of treatment. The X-rays give better results where the lesions are widely spread. Radium, however, if it were cheaper, would be preferable, as its application is much simpler, and practically no apparatus is required.

A hospital boat is now building for the New York Health Department, in which contagious cases will be transported from various parts of the city to North Brother's Island, and also in returning convalescents to their homes. There will be eight wards of six beds each, on the main deck, all separately inclosed in steel, with dust-proof ceilings and air-tight doors and windows to allow separate fumigation at suitable times. There will also be a large morgue, and room on the deck for an ambulance, and a fine engine. The ward windows will be large enough to permit of escape in case of fire or accident. On the top deck will be a saloon for convalescents.

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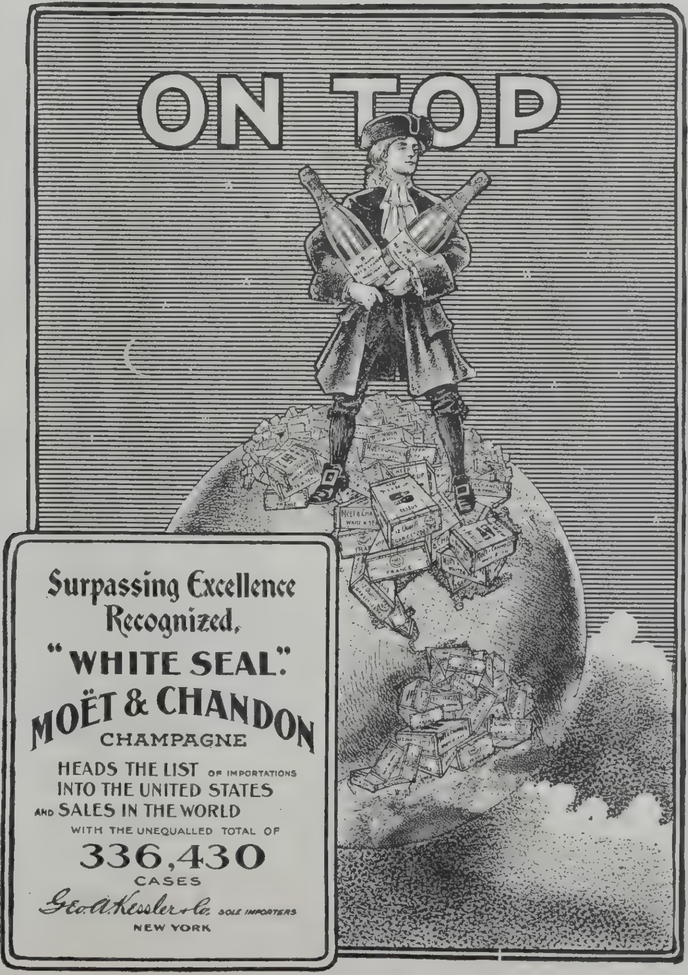

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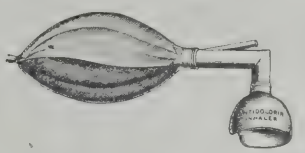

In extensive burns there is nothing better in the early stages than a 5 per cent. mixture of ichthyol and vaselin, says Stuart McGuire, of Richmond, Va. In sluggish granulations, especially of a tuberculous character, good will result from the application of a combination of 1 per cent, carbolic acid, 5 per cent. balsam peru, and 94 per cent. castor oil.—Charlotte Med. Jour., April, 1905.

G. Klemperer, of Berlin, refers to some experiments he made several years ago with a pneumococcus serum obtained by injecting rabbits with increasing amounts of pneumococci In the majority of cases the temperature fell in from four to six hours after the injection, to remain at a low level for six to twenty-four hours. The general condition was very much improved but the local symptoms in the lungs not influenced. Recently a new serum has been put on the market, Roemer's pneumococcic serum, which is certainly superior to the old preparation, since larger animals are immunized and the amount of culture introduced is greater. Paessler has already tried this serum in a large number of cases. While not a specific, the author reports that it undoubtedly brings about a favorable reaction and should be employed in all severe cases of pneumonia.—Therap. d. Gegenw., March, 1905.

Gray's Tonic is one of the most prompt and reliable gastric sedatives known to the profession; as instance of this it is only necessary to recall its wide spread use in the gastric irritability and vomiting of pregnancy and sea sickness. Once having pacified the stomach it exerts very positive effects upon the secretory and motor functions of this organ, manifested by creation of appetite and increased power to digest food. It is a great step forward when these patients can take sufficient quantities of proper food and have the power to digest and assimilate it. Gray's Tonic accomplishes this and as a consequence has a pronounced influence in improving the nutrition of the patient. It thus starts aright the complicated physiological processes which result in increased blood constituents, more vitality, greater strength, and increased power to resist the inroads of disease.

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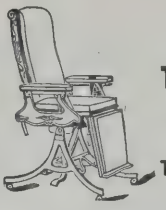

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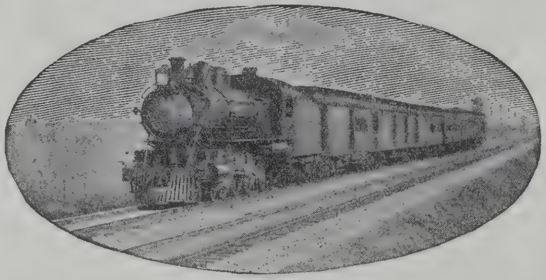

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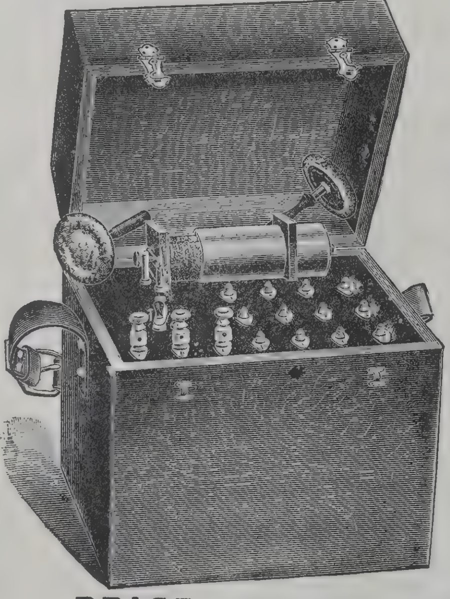

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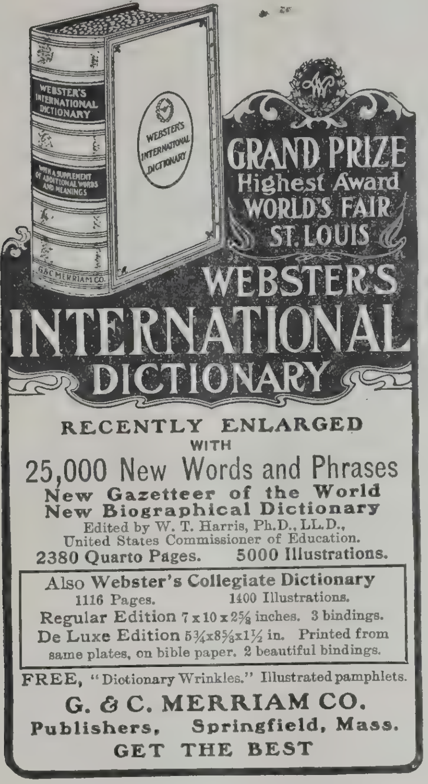
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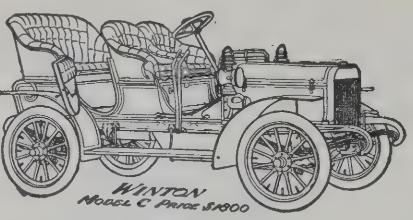

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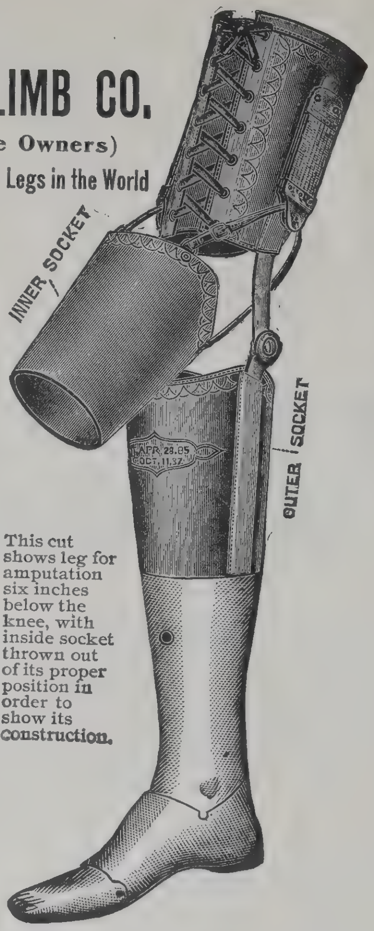

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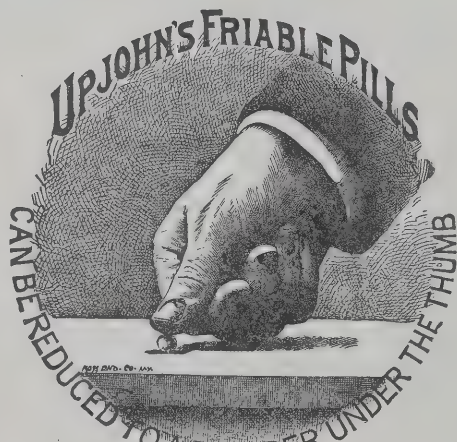
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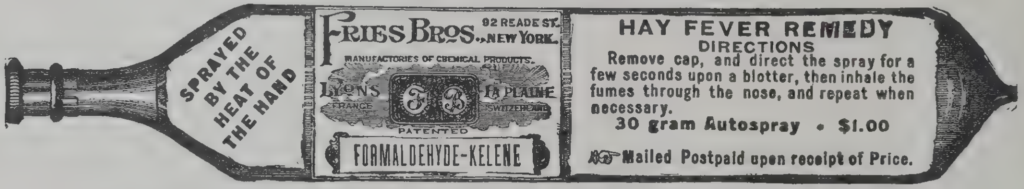
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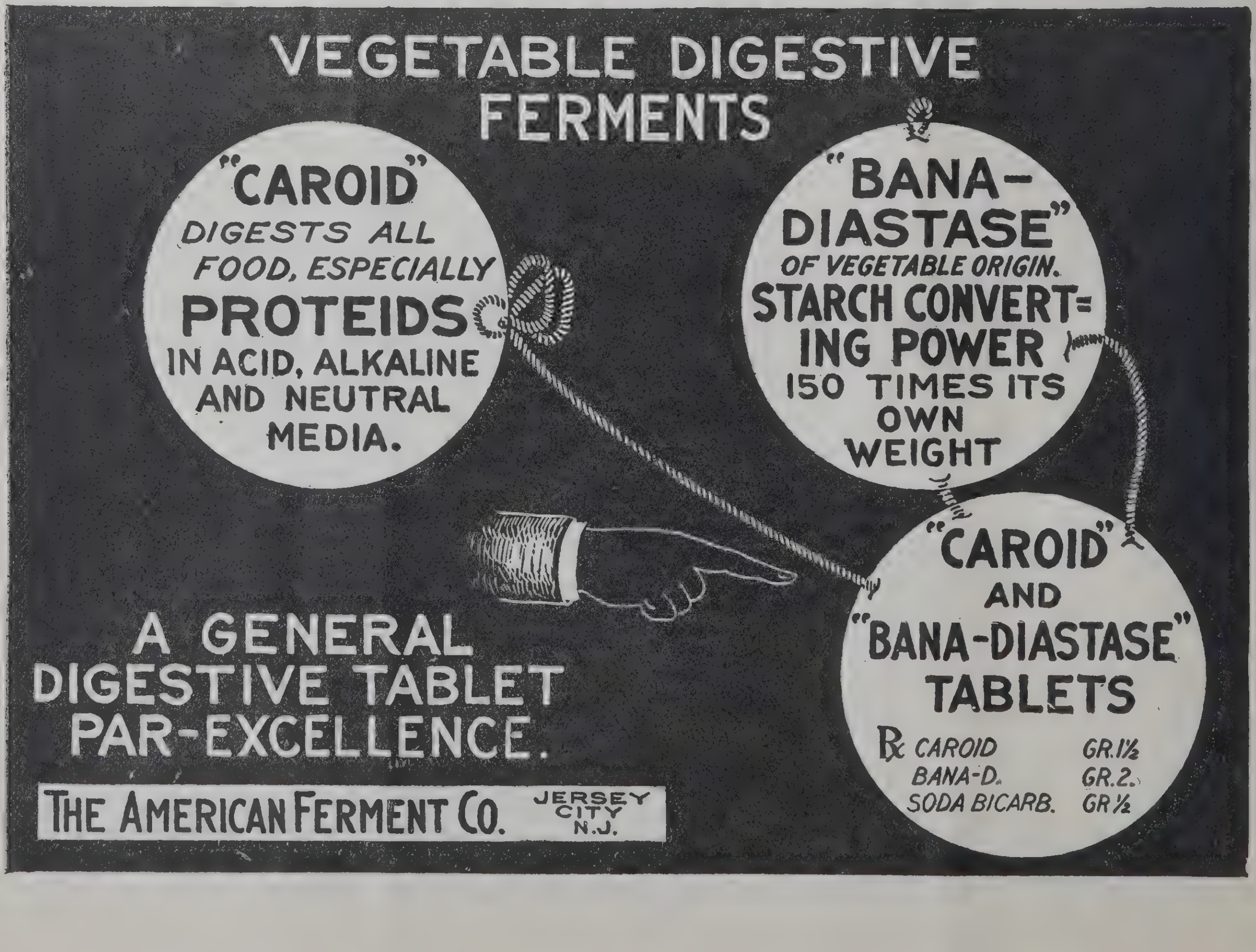
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A solution of the blood pressure raising principle of Suprarenal Gland.
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IN the opinion of many prominent rhinologists, laryngologists and general practitioners Solution Adrenalin Chloride and Adrenalin Inhalant meet the indications in Hay Fever better than any other agent.

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is a remarkably powerful astringent. In the treatment of Hay Fever it is usually diluted with four to five times its volume of physiologic salt solution. Sprayed into the nostrils by means of a hand atomizer, it promptly reduces the hyperemia and turgescence of the mucous membranes of the eyes, nose, etc., and checks the profuse secretions. It allays the nasal irritation and controls paroxysms of sneezing. Two or three applications a day ordinarily serve to keep the patient in a state of comparative comfort.

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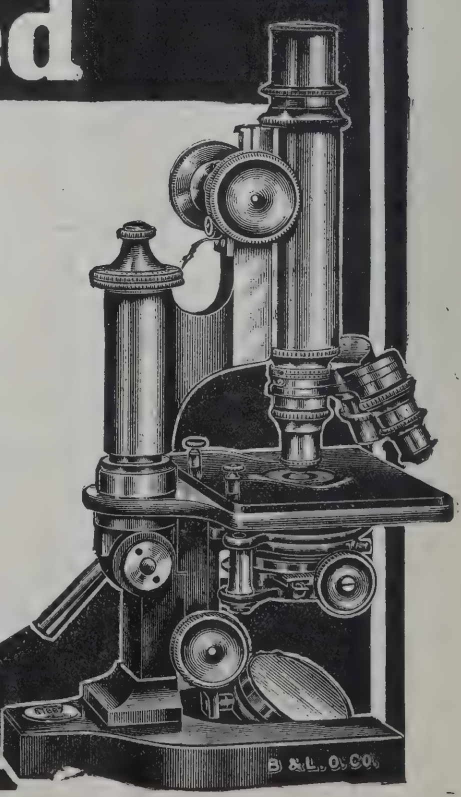

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to make the other kind of hypodermics—the kind that dissolve slowly, incompletely; that clog up needles and cause abscesses. The kind of hypodermics we make the busy man wants—the kind that dissolve at once and that give quick and full dose results.

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SELECTIONS

Koch in Africa. Robert Koch is now in the interior of Africa, prosecuting his researches, and does not expect to return to the coast until the end of July. He is the neighborhood of Iringa, and expects to return to Europe next spring.

Colorado's Climate affords ever delight to the seeker of health, abundance of sunshine and invigorating dry air; a climate approaching perfection, where the sky is clear and blue, and fog and dampness unknown; where the winters are mild and the summer heat never oppressive. Its numerous delightful health and pleasure resorts are reached by the elegant trains of the Colorado and Southern Railway. The following publications sent on receipt of postage: Picturesque Colorado, 3c.; Colorado's Climate, 2c. T. E. Fisher, General Passenger Agent, Denver, Colo.

Betul-ol in Rheumatism. Prof. Gros, of Paris, was one of the first to recommend betul ol in connection with colchi sal capsules in gouty cases complicated by a rheumatic diathesis. Betul-ol is a mentholeic acid combined with the methylester of the salicylic radicle, resulting from the action of water on a glucoside and a ferment present in the bark of the tree, betula lenta. It is not irritating to the skin, and as it contains 2 per cent. of menthol, it has an advantageous local analgesic effect which gives almost immediate relief from pain. Betul ol is best used with friction, but when the patient's condition and the tenderness of the skin do not admit of this, it be applied on absorbent cotton and covered with oil silk tissue. Where friction is permissible, the following formula will be found useful:

℞ Betul-ol..................2 grams.
Alcohol..................5 grams.
Ol. Ricini................3 grams.
Sig. M. ft. lin.

For external use. This quantity is to be used at a single application. Where there is great pain—morphine or cocaine can be added to the liniment.

Resinol in Pruritus

RESINOL Is the specific for all forms of pruritus. There is nothing that produces such immediate cessation from its pain, burning, and intolerable itching. Resinol Soap possesses the healing qualities of the Ointment, and is invaluable for cleansing affected parts.

I tried your Resinol Ointment on myself. I had suffered from pruritus ani, or marginal eczema, for 25 years, and had tried many remedies without any relief, until Resinol proved soothing and stopped the itching instantly.
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Resinol Ointment is the first local application I have found, that has given lasting and gratifying results in the treatment of pruritus vulvae. Dr. Grace Wintersteen, Harrisburg, Pa.

I have used Resinol Ointment in my practice ever since it cured me of a severe case of pruritus of 15 years standing.
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I have been prescribing Resinol Ointment for quite a while with very happy results, and find it excellent in all forms of skin diseases, also in many troubles of the vagina and rectum. Especially is it appreciated by the physician and patient in pruritus. W. E. Reynolds, M.D., Hopkinsville, Ky.

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ETHYL CHLORID
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THE IDEAL ANÆSTHETIC

Excels Nitrous Oxide in Every Respect

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ABSOLUTE SAFETY
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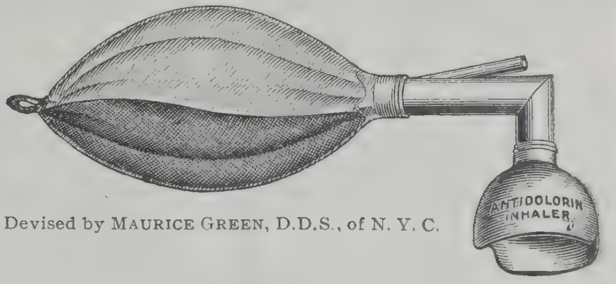

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Owing to the fact that many unsatisfactory anæsthetics and inhalers have recently been put on the market, **we offer to refund your money** after a 30 day trial, if the Antidolorin Inhaler does not prove **all** that is claimed for it. Price Will Be Advanced Shortly.

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A
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A powder prescribed in same manner, doses and combinations as pepsin (5 to 10 grains) with superior results.

A standard remedy for over twenty years.

A specific for vomiting in gestation.

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SELECTIONS

Ethyl Chlorid Narcosis, with the Antidolorin Inhalers. In advocating and recommending any general anaesthetic for dental surgery, or as a preliminary to ether or chloroform, it must necessarily be compared to Nitrous Oxide, the safest and most popular of all anaesthetics. In using this drug with the inhaler and method later described, it will be found equally as safe as nitrous oxide with a great many advantages over the latter. No contra-indications other than with nitrous oxide, the usual, ordinary precautions only need be observed. You rarely fail to get positive symptoms of anaesthesia, as the patient usually snores when anaesthetised, which is a sign to begin operations. Some anaesthetists, who have used ethyl chlorid, claim a relaxation of the muscles follows complete anesthesia, but for small operations, where only a small quantity of the drug need be administered, a contraction of the muscles will be observed. Should the anaesthesia be prolonged relaxation of the muscles follows. The patient becomes conscious in an easy, natural manner, as if awakening from a sleep, and there are no bad after effects whatsoever. The pulse may remain normal, or be slightly accelerated; respiration increases; in many cases perspiration of the forehead is observed, which further confirms the safety of the drug, as it denotes a stimulation of the higher centers.

The manner of using the Antidolorin Inhaler is very simple: Place patient in the position required for your operation, put the face piece over the mouth and nose, then commence to spray a small quantity of ethyl chlorid into the receiving tube, so that the spray flows directly into the bag. As soon as you have done this, place the ball of the thumb over the opening of the receiving tube, allow patient to take about six inhalations, permitting patient to be accustomed to the odor and effect of the drug; then repeat the spraying operation, each time spraying in a larger quantity of the ethyl chlorid; in from 30 to 40 seconds you will hear a gentle snoring; this signifies that the stage of anaesthesia has been reached. You can now operate at once if it is a simple case, requiring only a short time. Should, however, a longer anaesthesia be required, repeat the spraying operation intermittently until all signs of a heavy anaesthesia are apparent; patient will then remain under the influence for about three minutes. It will probably be well to give the comparisons here of this anaesthetic with nitrous oxide from clinical observations:

Any anaesthetist giving ethyl chlorid a fair trial in, say about half dozen cases, and closely following the directions here given, will find it an anaesthetic Par Excellence.

	NITROUS OXIDE.	ETHYL CHLORID.
Duration of Narcosis.	Very short and uncertain, according to constitution of patient; operator must work rapidly, seldom sparing tissues.	Duration of at least 1½ minutes, very often longer — also depending on patients constitution; operator can however, work very deliberately even at the shortest period of narcosis.
Cyanosis	Cyanosis always present.	All anaesthetists who have used this drug agree that there is no cyanosis.
Apparatus	Very cumbersome and expensive.	Portable, can be carried in the pocket or satchel, one-fifth to one-tenth as expensive.
Expense per patient.	Seldom less than 8 gallons are used—16c.	Seldom more than 5 grammes are used—10c. or less.
Mode of administration,	Escapes from cylinder with noise, greatly detrimental in nervous cases.	Absolutely noiseless in administering.
Hemorrhage....	Profuse.	Normal.
Relative safety..	Safest of anaesthetics.	Just as safe under present method of administration.
Effect on patient	Have often heard that saw and felt operation, but was powerless to make any outcry.	Absolutely anaesthetised. Cannot see or feel operation.

Our readers will find on pages xxii and xxiii, an advertisement by the manufacturers of Phenalgin, which sets forth over their signature a clear cut and concise statement of their position regarding the present crusade against proprietary preparations. The Etna Chemical Co. consider themselves to have been selected as an especial butt of criticism in certain directions, and claim both their product and business methods, have been misrepresented. This concern has been so long before the medical profession, that its direct statements are entitled to due consideration. We commend the same to your attention.

Gelatin for Injection. The value of gelatin in arresting hemorrhage admits of no doubt, but its use has remained somewhat limited owing to the great difficulty of rendering it absolutely sterile. The danger of tetanus is especially great. H. Doerfler (Therap. d. Gegenw., 1903, No. 3) mentions several cases where the bleeding was successfully checked, but where the patients succumbed later to this terrible disease. It has been shown that the spores of tetanus will withstand sterilization by live steam for thirty-three minutes, hence the practitioner will have the greatest difficulty in rendering his solution safe for subcutaneous use. For this reason Merck has put on the market a 10 per cent. solution of gelatin, prepared from fresh calves' feet and sterilized for several hours on successive days at 120° C. The containers are sealed hermetically, so that the solution will keep indefinitely, and will always be ready for use. The syringe and needle must, of course, be sterilized thoroughly, and the site of injection, and the physician's hands should receive the same care as for a major operation. Many articles may be found in literature (see D. Fricke, Deut. med. Woch., 1904, No. 20) which speak well of gelatin in various conditions associated with hemorrhage, but its value in aneurysm of the aorta seems to be very doubtful.

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Why Prescribe Pepsin for Dyspepsia?

Read the Verdict of Authority.

Hemmeter: Diseases of the Stomach. 3d Ed., 1902, p. 345.

"There is rarely any indication for the use of pepsin . . . . . personally, I have ceased using it."

Einhorn: Diseases of the Stomach. 3d. Ed., 1903, p. 204.

"I have entirely abandoned the use of pepsin . . . . . while I do not advocate the frequent use of hydrochloric acid, I am strongly in favor of the administration of the so-called bitter medicaments . . . . . which must be considered as effective stimulants of the gastric functions."

The Modern Treatment of Dyspepsia due to deficient gastric secretion demands the stimulation of the appetite, the excitation of the gastric functions, a proper diet, and—no pepsin.

Ext. carnis fl. comp. (Colden) contains three of the most potent excitants of the gastric glands. It will stimulate the appetite, increase the quantity and quality of the gastric juice, and promote nutrition generally. Sold by druggists. Write for literature.

THE CHARLES N. CRITTENTON CO., Sole Agents,
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Valentine's Meat-Juice

In the Treatment of Diseases of Children, the **Concentrated, Rapid Blood-Making Nutrient,** Valentine's Meat-Juice, is extensively employed, owing to its Ease of Administration and Assimilation, its **Power to Sustain and Nourish,** and its Acceptability to the Stomach **when Milk and other Foods are rejected.**

Diseases of Children.

Wallace McGeorge, M. D., *Ex-President New Jersey Homœopathic Medical Society:* "I use Valentine's Meat-Juice in convalescents and in children who are threatened with Marasmus and who are troubled with mal-assimilation, and I strongly recommend it."

Alex. H. Laidlaw, M. D., *Medical Director Private Hospital for Chronic Diseases, New York; and* **Geo. F. Laidlaw, M. D.,** *Lecturer on Diseases of the Kidneys, New York Homœopathic Medical College and Hospital:* "After prolonged use of Valentine's Meat-Juice in our hospital, we consider it a most reliable preparation for blood- and tissue-building in all low states of vitality, and recommend it to the profession as a nutrient, stimulant and blood-maker of the first rank. It is a safe and perfect substitute for raw-meat diet, it obviating the risk of tape-worm."

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CEREBRO-SPINAL MENINGITIS.

BY GEORGE B. H. SWAYZE, M.D., PHILADELPHIA, PA.

THE disease known by the name of cerebro-spinal meningitis, if a fully developed case, is an inflammation of such intense gravity that its presence causes most serious concern. The anxious friends direct many appealing glances toward the perplexed physician in charge as pilot, while he, in turn, usually finds himself handicapped by the masterful conditions that confront his routine medical skill. The efflatus of our professional conceit, if we have banked on it, shrinks naturally to a shred of humble hope, and our learned postulates about pathology, etiology, thermogenesis, pyrexia and reflexes, for the enlightenment of anxious bystanders whose hearts are trembling with suspense or crushed with the weight of grief, are liable to wane into empty sound and barren sense in face of bald therapeutic failure to effect understandable relief and cure.

Fortunately there are varying degrees and shades of most diseased conditions, and the absence of the elements of communicable contagiousness protects community from the scourge of true epidemics of cerebro-spinal meningitis. Cases appear periodically, as a result of conditions that effect health, are scattered because of varying sensitiveness of different individuals to these conditions, but the general infrequency of the disease makes room for a startle to profession and people when a series of cases manifest themselves.

In staid, swerveless spite of voluble technical theorems regarding the deviating rods and wrinkles of adventitious bacilli ferments developed in diseases affecting different locations and tissues of the human body, the one squarely fundamental fact remains unchanged, namely, inflammation is essentially inflammation wherever it is located; and we are wiser if we never forget this indisputable pathological certainty in our recognition of the problem of therapeutic province for relief and recovery. We are, therefore, in position to see that it is not the mere condition of inflammatory area that determines the degree of difficulty and danger. For illustration, the external skin differs from the mucous tissues of internal coverings, and these again from the expansive serous tissues. The functional products of each differ from the functional products of the other both in health and in disease of said tissues. A positive spinal meningitis may speedily prove fatal because the degenerative inflammation involves the fibro-serous tissues that cover the medulla oblongata or "seat of life" and the cervical portion of the spinal cord or strait through which the brain extends the functionating energies carried on in detail by the great sympathetic nervous system of the body. These fibro-serous membranous coverings are highly vascular with their network of capillary arterioles transmitting blood through them. But rigidly encased as these are by the defenses of unyielding bone substance, there is very limited space for accommodation of the turgescence or expansion that attends local congestion, and also for the effusion that naturally follows inflammation.

The absence of accommodating space here reacts as direct mechanical pressure upon the engorged tissues surrounding the medulla and cervical cord, and thereby as local obstructives greatly augment the difficulties to recovery and dangers to life in manner as we may presently perceive. If an equally small area of inflamed tissue had occurred upon the outer surface of the body or skin, it doubtless would be termed a patch of erysipelas. There it could be treated locally and adequately prescribed for with every vital chance of prompt cure. If, again, an equally small area of inflamed tissue had developed on the internal serous coverings, it would be termed a pleuritis or pleurisy or a limited peritonitis, and in the main successfully managed to successful recovery. On the mucous surfaces it would be termed tonsilitis, diphtheria, bronchitis, possibly pneumonia, et cetera, according to what particular location was scathed; the differences in treatment and results depending logically on access with remedies to parts involved, especially on the co-existing status of the blood, and on the time the case vitally allowed for winning out a convalescence. It stands unquestioned that in inflammation of the external parts of the body, there is unlimited space for the turgescence or swelling. In the mucous tissues generally and the peritoneal tissues there is accommodation for turgescence and effusion. The vital centres are not directly and violently encroached on, and time allows opportunity for resolution and recovery.

The inherent type of inflammation, wherever located, is logically the same in each case,—always reckoning into the account the varying qualities of the blood of the individual involved, and which essentially varies the phase or expression of the abnormal manifestation and mainly gauges also the rate of recovery or its reverse; but while our recent over-strenuous researches for bacilli and serums have striven to force into vogue a novel change of medical comprehension and methods, it is already demonstrated that the bacilli and antitoxin serum fad has not and never will or can change the radical facts of disease nor reduce the recurrence and prevalence of even our most common forms of disordered health. All modern suggestion about the toxic aggression of a vagrant bacillus finding its way from the air to the base of the brain-covering as cause of cerebro-spinal meningitis, with the anticipation of conventionalizing a serum through the blood of the horse or other animal to inject into subjects either as a prophylactic or a curative procedure, must prove but a fallacious mirage on the therapeutic horizon when we face the local situation of the medullar and cervical membranes caged with the resistance of unyielding bone structure. If the circulating blood tone is below normal par, no antitoxin injection can restore such blood to healthy efficiency for the mission of healing an inflammation. The blood of the body is a constructive agent that cannot be reconstructed in a day or a dash if in degenerate state. The blood status gauges the progress of recovery independent of the micro-organism products of any disease.

In the application of this indisputable truth to cases of spinal meningitis we will now carefully remember that it is by the healthy state of the blood that the contractibility of the capillary vessels is sustained, while a morbid change or impairment of the quality of the blood impairs also the contractility and motivity of the capillary vessels more or less to even complete stagnation. In other words the tissue elasticity and contractility of the arteries tend to impel their contents and empty them into the receiving channels of the veins, and thus unload the engorgement of congestion. But with the loss of this impelling energy because of lack of blood stimulus through impaired quality, the engorgement of congestion under local mechanical repression blocks the circulation through the inflamed tissues, and stagnated blood at the base of the brain means hastened dissolution. Medicines then are helpless to help, and injections of antitoxin would prove as futile as to shoot a feather arrow into a well of muddy water to rescue a strangling man. Stagnated blood in the mat of arterioles surrounding the pons and medulla and cervical cord means a blockade there of coagula, and coagula in blood-vessels in the brain mean death. Again, in inflammation there follows effusion, which, in spinal meningitis can but increase the local pressure, and, at the temperature of the body, degenerative process sets in promptly. Dissections have revealed exuded lymph of yellowish or greenish hue, sero-purulent effusion evincing local decay,—matter as dead as Julius Caesar awaiting its undertaker bacillus—decaysome material not produced as such by the operation of bacilli, but developing bacillian ferments spontaneously as the result of exhausted vitality.

The recent visitation in increased numbers of spinal meningitis in the cities of New York and Philadelphia has awakened in us unusual interest concerning the phenomena of this form of disease. Certain of our younger brethren, unfamiliar with its serious manifestations, supposed that a new disease had appeared. But cerebro-spinal meningitis has been studied and described by intelligent authors well back in the early forties of last century. According to Condie, there prevailed endemics of the disease in 1844 in different parts of France, Ireland, at Gibraltar and in Belfast, inferentially induced by unsanitary conditions of housing, and descriptions of which dovetail with our American form of the disease as I have witnessed it in my professional observation. Encephalo-meningitis has not proved quite so serious or so speedily fatal, when fatal, as has the cerebro-spinal form, doubtless for reason of the anatomical environment already described in this paper. When the present writer was a medical officer with his regiment in the Union Army during our late Civil War, 1862, he had with him ready for reference an early copy of Neil and Smith's Compend., in which cerebro-spinal meningitis was so adequately described that I had no difficulty in recognizing my first case of this distressful disease. It was a typical case, with violent delirium, unsteady pulse, grinding teeth, fearful convulsions, rigid contraction of the head backwords, even distinct development of areas of congestion upon the skin or "spots," by the appearance of which in such cases this form of disease acquired its sobriquet of "spotted fever." Soldiers in crowded quarters, especially new recruits, suffer from unsanitary influences. I accounted for this case from the circumstance that our regiment had been crowded a week in depressing cold barracks at Washington, D. C., during a bitterly rigid spell, December, 1862. Thence the regiment was crowded on transport vessel to Newport News, Va. This young man had been especially humorous, worked his brain intensely as sportmaker for his comrades, but on arrival at Newport News the camp had only got up its tents when he was stricken. He expired in about three days after the attack developed. His blood had been poisoned by crowd air; his cerebellum was sensitive; his mental exertion had induced excessive blood pressure to the brain, and the receptivity of the medullar tissues landed there the congestion and obstruction from which he could not survive. No other case of meningitis in our regiment of a thousand recruits followed this fatal case, although no attempt whatever was made at the fear-rousing exploit of quarantine. The fuss and flummery exhibited by Boards of Health have not averted any serious diseases in community because of the agitation roused in the minds of people by the hardship and perturbation wrought by over-zealous official procedures. The spread of disease is as much due to mental receptivity as to actual contact where the lowered blood status makes a ready soil to grow abnormal results.

By a sensational newspaper report it was stated to the gleaning public that the chief medical inspector of the Philadelphia Health Bureau had announced to eager interviewers that the cases of cerebro-spinal meningitis in this city "had all died," and that the disease was contagious, also that "there is absolutely nothing that a person can do to prevent the disease." Such unguarded expression by an official whose every word is caught up as fact, readily starts the "contagion" of public panic, and the pressure of fear and dread in the brain of apprehensive persons tends to invite the development in the sensitive medulla serious congestion and its sequences. It is expedient to teach that cerebro-spinal meningitis is as preventable as is any other tissue inflammation. The disease is a result of exhaustion or depression of the nervous system and degenerate state of blood, blood the qualities of which have been impaired below the normal type, as predisposing cause in sensitive brooding temperaments. The seriousness of its location may be attributed to accident of circumstances and personal brain impressibility. Inhaling toxic crowd air, filth air, spoiled air of any nature to mastering extent, disposes to development of spotted fever. Hyperesthesia of brain tissues from mental sensitiveness, thought engorgement of the medulla, brooding discouragements or disappointments, excess of hilarity, the cerbellar turgidity of amorous propensities, each or altogether invite invasion of spinal meningitis. The natural sensitiveness to emotion of the child brain, its responsiveness to fears and agitations, open early gates to brain disorders in the presence of physical depression. How often we hear it said of a young child, made captive to cholera infantum, et cetera, "It went to the brain and the doctor couldn't do anything for it!"

The unusual severity of our long winter with closed doors and windows of most buildings enhanced greater combustion in homes and work places of the varied fuels and illuminants in common use, and which diffused their toxic carbonic oxide gases into the housed-in breathing air of the people. And the extended employment of gas stoves and coal oil stoves for heating sitting-rooms and bedrooms during the long nights; also the use of kerosene lamps and gaslights all night in sleeping-rooms; and besides these toxic house gases in homes and business places, reckoning must be made of the sweep of poisonous fuel smoke and gases from the uncounted house chimneys, from chimney stacks of power houses and factories, from belching locomotives in our large cities—from hundreds of unthought-of agencies that perjure the outdoor breathing-air of towns and cities: all of them radical despoilers of the blood and nerve tone through interference with true oxygenation of the blood and increasing its impurities altogether forcing the gates to widespread consumption, influenza or grippe, diphtheria, pneumonia, nervous prostration, and even the distressedly acute dangers of spinal meningitis. The flimsy hypothesis of contagion conveyed by bacillus in all these forms of disease dwindles to a transient bubble as compared to the enormous havoc and continuity of such deleterious agencies that undermine the vital support of health as I have just summoned to more thoughtful attention and analysis. The quite universal dominance to various degrees of poisonous carbonic oxide gases in the breathing-air of the people, through ignorance and neglect of their stealthy nature, blight the blood corpuscles and capture the nerve tone through the production and retention of excess of devitalized waste matters of the system. How? Through the evidently inadequate oxygenation in the lungs of the vitalizing blood current—because the bad air inhaled prevents the necessary purification of the blood as it flows to the lungs to be re-vitalized. Like filthy water for cleansing, so filthy air, toxic air, never properly relieves the laboring blood of its impurities. With the human body abusedly flushed with badly oxygenated, partly devitalized blood corpuscles, what more natural than depressed functions and sluggish areas of local congestion, a clog or blockade in the capillaries directly merging into what we know as inflammation. Blood burdened with natural impurities is poisoned blood, and some expression of inflammation somewhere is but a natural sequence. It will be noted also that those who live outdoor lives are relatively hardy and less subject to the illnesses of the seasons; while they are our houselings who grow tender and sensitive to the atmospheric depressions indoors, and hence constitute the rank and file of the continued army of invalids.

In the anthracite mining region of Pennsylvania, where I practiced during the late sixties, coal stoves and kerosene lamps were profusely used in every house and shanty. There being then no other mode of prolonged lighting, the oil lamps were habitually burned in many or most sleeping-rooms all night—especially so because of the children. I have nowhere else ever witnessed so many cases of what we term cholera infantum terminating in meningitis, with tensely retracted head, smothered shrieks of distress, staring eyes, drawn countenance, struggling respiration and fatal termination as among children in that mining section. But why would not the inception of an exploding toxemia manifested by spinal meningitis in children, have its prodrome symptoms of suspended digestion, vomiting stomach and purging bowels through reflex of prostrated nerve centres engaged in conducting the nutritive processes? In time it became evident that a serious endemic of cerebro-spinal meningitis prevailed also among youths and adults, and the larger percentage died—while those who survived were slow and tedious to recovery, and pitifully incapacitated for the work and employments of life as reward for the task of living. These cases were generally carefully attended, and with no evidence of contagiousness following. Eventually a council of local medical men studied the unhappy situation, and it was the consensus of their conclusion that the majority of cases and deaths occurred in families who banked back the coal gases of their fires peradventure over nights into their house air by lifted lids and draft-shutting stove dampers, and burned coal oil lamps all night in their close and stuffy sleeping-rooms.

In applying this valuable lesson we should remember that corollary situations obtain in very many city habitations, and their room crowding mischiefs are no less obvious. The difference between a burning gaslight and a kerosene lamplight is a difference in the form of combustible material, with no practical pathological difference in the toxic results of their combustion in the breathing-air of closed rooms. Smell or no smell, it is the combustion of carbon element by the consumption of oxygen in the feeding air, which process, by consuming the needful oxygen of the room, is setting free for inhalation the carbonic oxide gas devitalizer quite the same. Besides, the modern methods of producing illuminating gas have made the stealth of its poison when using increasedly treacherous and dangerous to the breathing surfaces, to the blood corpuscles and nervous energies. The people are yet ignorant, and thoughtless because ignorant, not in regard to what they eat three times a day, but in regard to the vitally more important matter of what they breathe twenty times every minute in the twenty-four hours of every day through life.

The tremendously increased use of these modern commercial handy-andy gas stoves and coal oil stoves, in families for culinary purposes and for heating rooms, is a growing and perilous menace to the inconsiderate people. The combustion with these affairs runs at wholesale rate in every apartment where used, and having no practical chimney device provided for conducting into a flue the carbonic oxide gases from the combustion of the consumed fluid fuel, said gaseous poison is poured out broadcast into the house air and there poison or at least perjure every breath of the inmates while in use. These extra-handy appliances or their equivalent during moderately cold and wintry weather were beyond rational doubt active causative factors in developing increased cases of spinal meningitis in its recent invasion among middle and lower class families of our cities during raw wintry months just passed. And how many wise pathologists of our beloved fold were blankly telescoping their fertile fancies for some discoverable "germ" amuck the unsanitary output of air-spoilers! Funny! I pick up a clipping headed "Spotted Fever Baffles Science." But the cause of spotted fever need not mask in mystery if studied inside the home, the house, the office, business place, possibly the school or Sunday school room. An eminent German authority is credited with saying: "The germ of the disease probably enters the system by nasal inhalation. No one knows, now, what causes an epidemic of the disease." Shall we wait curiously till his eminence catches his fructifying "germ" and transports it through winding ways to the coverings of the oblongata of some unfortunate's brain to test its special virility?—or prefer to look out for our home-made everyday toxic environments for practical comprehension and prevention of cerebro-spinal meningitis?

In the raw month of March, last, I was called to a lady in middle life who follows dressmaking for livelihood. I found her anemic, prostrated, despondent, with acute sensitiveness and nausea of stomach with retching after every swallow of nourishment or drink, pain in back of head and down spine, feverish, weak pulse, unsteady voice, vertigo and tendency to delirious talk. She was wintering, working and sleeping in a small, third-story back room, overcrowded with her effects, warmed by a fancy coal oil stove, lighted at night by a kerosene lamp, which, because of her sense of loneliness in the dark, she allowed to burn all night in her shut-up room. Now, then, did I need to speculate over any microbe conundrum in order to shape my policy of indicated treatment for this good woman's forlorn situation—when there was all that pernicious enginery of devastation of vitality boldly staring me in the face? I did, however, unbolt a mild electric gleam of common sense hygiene on the spot, and by prompt transformation of her environment to normal chances, together wth harmonious therapeutic aid, saved her from collapse into spinal meningitis, and returned her to her appreciated fashioning of ladies' gowns.

We all modestly approach the subject of treatment in spinal meningitis. All professional claims to glorious success should be weighed on the scales of qualified probability. There are two afflictions of which the writer has been in the habit of affirming that he would not promise to cure, namely: consumption in the aggressive stage and brain fever. According to the older authors, who really gave this disease extended study, but when bleeding was in tempting vogue, much like the passing fashion of antitoxin procedure at present, the treatment usually began with venesection. But with the present civilization and temperament, I would as soon advise assassination. Cupping and leeching behind the ears and at back of neck, another old-time barbarity, is of relatively doubtful service except to add their sanguinary impress of heroic parade like the present mania to knife the ovary or appendix for every stubborn pain in the lower abdomen. In the late sixties, bromide of potassium was the popular remedy for quite every disorder that was tagged to the nervous system. It had its values—on the limited express; but even its prestige was overrated by excessive uses. However, when Prof. Hammond, of New York, published his comprehensive paper in the *Psychological Journal,* showing that although the bromide undoubtedly sedated an excited brain, its profuse employment in given cases produced brain anemia to the extent of mental weakness, then the turgid enthusiasm of its zealous apostles waned till the bromides gravitated to normal values in therapeutics. Along with other practitioners, I used the bromide systematically in all forms of cerebral affections about that time; possibly it helped some mortal to live. We never know the exact dividing line between therapeutic efficiency and vital tenacity in pulling a case to convalescence.

The comparative infrequency of meningitis will dispose younger practitioners to turn to publishing authors and their repeated quotations of what was written fifty or more years ago. Cauterization, cold douche and counterirritants have been tested with indifferent results. Opium was praised sixty years ago, probably because opium was then a universal dope and seemed a relief because it benumbed cerebral sensibility, but with no reckoning of its unequivocal harmfulness in other respects. It did not save the cases, eighty per cent. dying. Two of our prominent Philadelphia authorities have recently repeated the storied book lore in regard to reliance on opium in meningitis. After all this interval for broadened thought such iterations suggest formal rubrics framed for generations agone. A modern University Professor, of the Old World, recommends punctures to the spinal cord, if rightly reported, for drainage of the fluids from the inflamed membrane for the purpose of reducing local pressure. This operation would have to be very accurately gauged as to depth. The puncture would need to be kept open for systematic effect. I think, however, that evacuation of effused fluids below the oblongata or at cervical cord might be effected more directly by the medium of the suction syringe or aspirator. No permanent opening would thus be made for admittance of external air. At best, the problem is practically problematic, but successful advances on this line may be developed.

In agreement with my present reasoning there is no specific so effective in spinal meningitis as continuous supply to the lungs of pure fresh breathing-air to oxygenate and revitalize the blood current. Deoxidized, devitalized breathing-air operates as the mastering cause of the disease. In the presence of a floodtide of good blood a vagrant bacilla would prove as a toothpick against a Japanese gunboat. Reoxidizing, revitalizing breathing-air, every moment and hour must naturally promote restorative effects. Opium, itself a poison in decided doses, is a stultifying deceit in meningitis. As a winding "sheet anchor" opiates have masked the way to multitudes of deaths. It stupefies cerebration and sensibility, dries the secretions, suspends digestion, nauseates the stomach, locks the bowels, benumbs the general functions—produces altogether a prodigious reversal of conditions most needful for the prospects of the patient. "What fools we mortals be!" I would avoid opiates as I would avoid a sneak strangler in the dark with a chloroform bottle up his sleeve.

Iodide of potassium in full doses has often been pushed with the idea that an "alterative" effect must be obtained. But it needs be remembered that presumably we are dealing with a non-specific or non-syphilitic condition in general cases, and the devitalizing dosages of iodides but encumber the way to reprieve. Cold applications to the head or ice bag beneath the cerebellum and against the neck, with idea of reducing presumable local internal heat of inflammation, has been a formal procedure of antiphlogistic treatment. I will never resort to this again in meningitis. In my later comprehension, continuous or positive coldness directly tends to the formation of coagula in the area of engorged membranous tissues, and thereby hastens the pace of death. In my conviction the ice bag has complicated and inhibited the chances for many recoveries. In view of this philosophy, warm applications, bags of warm water, would facilitate more freedom of local circulation—an absolute necessity to obviate the disposition to local blockade and coagula. Free saline catharsis at the start, and this moderately maintained throughout, operates as a serum drainer of the entire economy, and is good practice. Full body baths in warm water, preferably in the bath tub, with head and face protected, repeated several times a day, are most valuable relaxants of nerve tension and afford the comforts of a general surface derivative. The hair should be carefully shaved from the back portion of the head. After being lifted gently from each prolonged bath, pure alcohol should be freely mopped upon the skin with a tuft of absorbent cotton, particularly also upon the scalp and spine, with the patient upon a soft wool blanket, in which he will remain wrapped to promote a soothing absorption and the equalization of the temperature. The absorption of abundant pure alcohol will favor systemic stimulation and quiet, without cerebral harm. Mild counterirritants to wrists and ankles to divert circulation to the extremities is in harmony with aim to reduce engorgements of coverings of cervical cord and medulla.

In intervals between baths of twenty to thirty minutes each, because of their hygroscopic or moisture drawing action from the surface without injury to the same, quarter inch layers of antiphlogistine, or of creta menthol, or their legitimate equivalents, should be spread around the back of the head from which the hair has been shaved, and of the neck—and the application then evenly covered with absorbent cotton comfortably held in place, for continuous divertant locally that can nowise tend to formation of coagula in the mat of congested and inflamed tissues inside. The greatest possible gentleness and quietude must be maintained. Even a sharp tone of voice may produce shock and spasm. It is not well, for obvious reasons, for the patient to rest continuously upon the back, since prolonged pressure there hinders help. Rest upon either side, and the neck spared from short bends by judicious arrangements of pillow supports filled with soft clean cotton (no feathers) facilitates freedom of circulation between the brain vessels and the relieving distribution of the body.

As to medicines, as internal soothers and antiseptics I dispose to using moderate doses of finest acetanilid with less proportion of salol, these braced tonically with a grain of salicin, each dose at two or three hour intervals. Quinine is objectionable in congested head troubles. To further reduce tendency to formation of coagula, an occasional tang of muriate of ammonia in cold water will advance chances. The normal heart power must be protected. Since it is affirmed that normal cell action depends on the presence of phosphorus, one two-hundredth grain phosphorus and one one-hundredth grain strychnine hypophos in combination, every three hours, during crisis conditions, is in harmony with the objects sought. Impoverished blood cannot adequately sustain vitality nor recruit nature's struggles from depression. Good blood is a natural healer always. Pure air and liberal nutrition, therefore, are of supreme importance. For forty years I have heartily fed the sick, with my soul believing in the preeminence of the therapeutic virtues of food to facilitate reconstruction and afford general conveyance and distribution of medicines to the blood. In meningitis the patient may fail to masticate, but will swallow liquids. I approve of the more easily digested liquid foods, raw fresh egg, milk without the addition of toughening whiskey, liquid peptones or panopeptons, three or four times each twenty-four hours one or two tablespoonfuls of India pale stock ale, a sip several times a day of unfermented grape juice, nutritive broths agreeably seasoned, all that can refresh the vital functions through their ordeal. To let a case exhaust itself through starvation is to annul every effort intended to promote a recovery. A case who lives in illness through feeding on his own sick flesh, because of fearing to feed him, lives at very dying rate. Whatever may be accomplished for relief of cerebro-spinal meningitis must be done by assisting disabled nature and by persuading disordered functions back to normal—nothing can be successfully effected by resort to heroic or bludgeon-like methods.

1726 North Twenty-second Street.

A surgical triumph is reported by the *Medical Times and Hospital Gazette*. Some twenty years ago, Sir William Macewen operated upon a young child for a rare condition of mal-development. It had been born without a bone in the right arm, which, when brought to him, lay limp by its side. Instead of amputating, it was decided to try and save the limb. Small sections of bone taken from other patients, who were under treatment for the cure of bow-leg, were transferred to the boneless arm, there to continue their growth and become amalgamated. Thus was the missing humerus eventually supplied; and the patient has now a very useful arm.

CONSTIPATION, THE HOOKWORM OF THE NORTH.

BY F. B. BRUBAKER, M.D., MIFFLINBURG, PA.

NOT long since I had a conversation with a physician who has spent some time in the tropics, and who, therefore, is conversant with the diseases peculiar thereto. In speaking of the natives he made the remark that they were in a state of semi-starvation from lack of proper and sufficient food. I replied that it was indeed a startling discovery to me to learn that such was the case, that I had always understood, or at least believed, that owing to the luxuriance of vegetation in all, or most all tropical countries fruitage abounded on every side, and that all the native was called upon to do was to eat and grow fat. He assured me that although my conclusions were true, that while bananas, oranges and the like could almost be had for the asking yet from some peculiar lack of nutritive principle or from lack of meat he was half starved. I replied that I had always thought that vegetables and fruits sufficed for the proper nourishment of the inhabitants of the tropics, arguing that sugar by being nearer the process of oxidation within the body, than meat, offered nutriment requiring less work on the part of the digestive organs than albumen, sufficing for the proper maintenance of metabolism, and referring to the health and vigor of negroes feeding exclusively on cane sugar. "Perhaps," says I, "we are here dealing with some widespread diseased condition existing among the inhabitants of the tropics which may ultimately explain the state of semi-starvation witnessed, says he by Stanley in Africa, himself in Cuba and Puerto Rico, and by many able observers, in the Pacific Islands." I asked him whether he was acquainted with a condition known as uncinariasis or hookworm disease, and he said he was, when to my utter astonishment I learned that it had never occurred to him that perhaps this might be the true explanation for what he saw. The word constipation, as usually employed, signifies a state of the intestinal canal in which the alvine evacuations too seldom occur. It is not our intention in this article to include obstruction whether due to impaction, concretion, tumors or stricture. Let us inquire in the first place what produces constipation and we shall find that all cases resolve themselves into one of three groups:

1. Those arising in deficient secretion.

2. Those due to imperfect action of the muscular layer of the bowel.

3. Those dependent on derangement of the nervous apparatus.

It is somewhat difficult to set down any standard to guide us when we come to inquire into what constitutes healthful bowel action, prolonged retention of fæces being within certain limits of such common occurrence and oftentimes attended with so little inconvenience. What is normal for one man along this line being abnormal for another. However, it may doubtless be accepted as a general rule that in the vast majority of individuals nature calls once daily. Yet on the other hand many who are apparently equally healthy have their bowels relieved but once every two or three days, or even but once a week or fortnight. Cases are indeed not altogether rare in which some degree of good health has been maintained for many years, although fæcal evacuations have occurred only at intervals of six weeks to two months. Dr. Wm. Roberts reports the case of a lady accustomed to the use of large doses of opium, whose regular habits consisted in going to stool once in six weeks and who, during one year of her life had but four calls occurring at intervals of three months each. Quite contrary to this there lives as an acquaintance of the writer a man who unless nature calls him to stool three to five times daily suffers first from headache to be afterwards followed by fever and general malaise. Thus for most persons whose daily habit in this respect is regular the retention of fæces for two or three days is apt to produce not only local uneasiness such as fulness, heat, tenderness, with a tendency to piles and flatulence, but also some degree of general constitutional disturbance, indicated by headache, foul breath, loss of appetite and dyspeptic symptoms, which not infrequently terminate with more or less tenesmus and dysenteric diarrhœa. It will therefore be seen that it is extremely difficult to say in all cases just what constitutes constipation.

The physical signs of severe and indeed ofttimes moderate cases of constipation, are too well known to call for elaboration here: the coated tongue, fetid breath, dulled or perverted taste with indifferent or voracious appetite, constitute a clinical picture in nowise uncommon, the whole closely simulating, if not partaking of the signs and symptoms of atonic dyspepsia. Dulness of percussion along the course of the cæcum and colon especially over the cæcum and sigmoid flexure, indicating the existence of fæcal accumulation, while digital examination too often reveals the presence of scybala, which by interfering with the return of blood from the inferior hæmorrhoidal veins, will cause them to swell, and pushing before them the mucous membrane, will produce hæmorrhoidal tumors. By the same mechanism congestion of the pelvic viscera may occur with its numerous consequent harmful results. There is scarcely a condition known to the gynæcologist which may not in some way be called into account or made worse when existent from other causes by the coincident state of constipation, while the long-continued retention of hardened fæces has finally an effect on the mucous membrane, in the extreme deleterious setting up of an intestinal catarrh, the irritation of which gathers strength with its persistence, and results in diarrhœa, the two extremes alternating. As to the evil effects of the state of constipation exclusive of the inflammatory, the subject may be summed up in one short sentence, viz.: The impairment of nutrition. The intestinal digestion and absorption becomes languid and hence the function of primary assimilation is inefficient. The result of this condition being shown in the thinness of body and the diminished muscular activity. Under these circumstances the products of intestinal digestion enter the blood in an imperfectly elaborated form, various sedentary disturbances occur. These relate primarily to the skin which largely takes upon itself the duty at once vicarious, but nevertheless timely, for did not other avenues exist and did not nature, here as elsewhere, ever maintain her watchful duality man would quickly succumb with leukomaine poisoning, but she does so reluctantly and warns the individual by setting up a psoriasis, eczema, erythema, urticara, lichen, etc., to disappear when the cause is removed. Nor is this all, for without the evidence afforded by a defined eruption the functions of the skin are nevertheless altered and disturbed by constipation, for the cutaneous secretions are deficient. The epidermis is dry and harsh, the circulation languid, extremities cold, the hair and nails brittle, and wanting in a proper physiological activity. Especially interesting are the researches of Stich on the toxicity of fæcal matter. The aqueous extract of a dog's excrement injected into the veins of the animal was found to be very toxic, but the same extract introduced into the stomach or rectum of dogs was completely inoffensive. It must, therefore, be at once apparent that "by the absorption into the blood of the effete products of constipation, whose elimination becomes imperative upon the skin, numerous symptoms must follow, of which the cerebral are mostly predominant. Headache, vertigo, stupor, etc., with a degree of mental depression or hypochondria commensurate, and sometimes resulting in melancholy." If now we shall pass in review the causes above enumerated as to constipation, we must arrive at the conclusion in the ultimate, that they all relate to nutrition either directly or indirectly, for as all muscular action and all healthful nerve force is dependent upon nutrition, the force of the above becomes all the more apparent. When the acid contents of the stomach are poured into the duodenum, and meet with a gush of alkaline bile, a copious cheesy precipitate is formed which clings to the wall of the intestine. With the bile acids the pepsin is mechanically carried down, thus is peptic digestion of the gastric contents stopped. By thus checking the action of the gastric ferment the bile prepares the chyme for the action of the pancreatic juice, acting first as a stimulus, exciting the muscles of the intestine to increased action, thereby aiding in absorption and promoting the forward movement of food. The bile likewise adds to the ingesta an abundant supply of fluid and mucous, much of which passes along the intestine to moisten and lubricate the fæces, and facilitates its evacuation. The bile also gives to the membrane saturated with it the peculiar property of allowing an emulsion of fat to pass through it.

Turning our attention to the pancreas we find its juice of all digestive fluids the most general solvent, acting upon the three great classes of food stuffs. It changes proteids into peptones. Emulsifies fat and converts starch into sugar. The same may be said of the intestinal juice. Therefore it will not require further argument to admit that if all these functions beginning with the stomach and ending with the intestinal glands are performed in a normal and regular manner, constipation becomes an impossibility, short of obstruction or disease. It is only their alteration or abnormality that can produce it. What then becomes the measure of this normal process whereby bile is poured into the intestine and each function is accurately and rhythmically performed? I answer, "the food." This being beautifully exemplified in those animals known as the carnivora, which suffer from constipation, and the herbivora which do not. Those animals, as man, the dog, etc., forming an intermediate class in whom constipation is common. It is my personal and firm opinion that the human race suffers greatly from constipation from one great reason or cause, viz.: The concentration of food! Let us take bread, for example. It is a well-known fact that bran is laxative. When rabbits are fed on white bread they soon dies from constipation, but if horn shavings (which are absolutely indigestible for them) are mixed with the bread to give bulk to the fæces, they have sufficient passages and thrive. The natives of Ceylon know this fact, consequently they mix with their rice, chopped straw and thereby avoid becoming constipated. To be properly nourished means introducing within the system of *first*, the inorganic substances, such as water, the phosphates, chlorides, carbonates, sulphates, etc. They enter the body either alone or in combination with the other two classes. They are not oxidized or split up within the system to enter into the chemical formation of other compounds, but are united mechanically with the proteid group, in fact, the whole action is, as it were, mechanical.

Secondly. We have such substances as owe their chemical combination to carbon, hydrogen, and oxygen only, as fat, sugar, and starch. These substances are oxidized or split up within the system yielding heat, energy, lubrication and rotundity only, which are finally eliminated from the body as carbon dioxide and water.

Thirdly. We have substances made up by carbon, hydrogen, nitrogen, oxygen and sulphur. The common representatives of this group are called proteids, albuminous parts of milk, eggs, meats of all kinds which chemically and histologically include fish, lobsters, crabs, turtles, oysters, clams, etc., and all poultry and game, also the albuminous parts of plant life, vegetable proteid. Normally transferred their excrementitious products are urea, uric acid, kreatinine, carbon, dioxide and water.

It will therefore be at once plain that a diet of Class 3 will leave little or no residue of excrementitious matter within the intestine, being nearly all absorbed and eliminated by way of the kidneys and lungs. This brings us back to the fact that carnivorous animals, whose whole diet is made up of Class III by reason of a lack of residue are constipated and leads us to search for an explanation of why herbivorous animals are rarely or never constipated. Here we have starch, sugar, water, etc., and again we find that the starch by being converted into sugar and the sugar burned, leaves little or no residue. Wherein, then, comes the great mass of fæces in those animals which feed on the vegetable kingdom? And we are forced to the conclusion that it must be cellulose—a waste product, so to speak, the skeleton, if you please, of all the vegetable kingdom. It is this therefore that gives bulk to the fæces; it is this that gives the digestive tract its stimulation, causing the bile to flow, and the intestines to rhythmically contract. Cellulose, the great intestinal stimulant, chologogue, tonic and cathartic. Take it away and you remove in effect what the hook worm takes, in fact, for ultimately, it is nutrition that suffers. But I have not arrived at these conclusions hastily neither without proper study. I have taken dogs and fed them exclusively on meat, and witnessed the result, viz., always constipation! I have fed a dog exclusively on concentrated food, white bread, etc., and witnessed a degree of constipation pitiable to behold. Then I have added cellulose as I found it in the bran of the wheat and have given my dog all degrees of relief, varying in small amounts to one evacuation every five to seven days, to a soluble evacuation oft repeated and perfect health. I have accomplished the same with men. I treat constipation in no other way and I treat it successfully. I know that skillful men have said that the removal of the bran from the flour does no harm. I know that other skillful men have said that they can prepare a substitute for the bran. I know that both have said that concentrated food is best; but I deny it all. Nature will prepare the best food for man and she will do it successfully. I am not here speaking of infant feeding, neither the feeding in diseased conditions. In conclusion, therefore, let me remind the physician that if nature is holding up to man the great panacea for constipation, if chemistry reveals it, if experimentation proves it, and if observers behold it, it is to us, therefore, a duty, to rescue from a nutritive thraldom the tens of thousands of constipated sufferers of the North, whose fermentative doom is as real and whose nutritive disaster as impending as a like number of tropical inhabitants, whose stature is dwarfed, mentally and physically, and whose anæmia is severe in type. Let us return to the tradition of our fathers in the former and keep the bran in the bread, while in the latter we chase out the invading parasite by appropriate remedies, and in both behold a return to health and vigor, the keyboard to all progress.

THE PROBLEM OF INFANT FEEDING.

BY A. M. LEONARD, M.D.

RAISING babies by the bottle is like hatching chickens in an incubator. The hen and the human mother seem to have no especial trouble when they are employed, but it becomes a complicated problem when blundering deficient man steps in. There is no way known yet of producing a perfect substitute for woman's milk; for example, we can mix a food that will contain enough fat and sugar to maintain the body heat, and sufficient protein to allow of an increase of animal cells, which must contain milk, as curding is necessary to develop the mechanical function of digestion, for young animals require this factor. If cow's milk is diluted to produce the amount of proteid or curd to suit the infant's digestion, it will not receive nourishment enough to cause gain in weight, all the food ingredients being used to furnish heat, and when sugar is added in sufficient quantity to this diluted milk, the infant will gain in weight, but if the food is less than half milk the infant will not get as much proteid as it gets in mother's milk, while the amount of fat in diluted plain milk is too low. Sugar can take its place in furnishing heat, but Lecithin, an important ingredient of the brain and nerves, is found dissolved in the fat, and a baby needs this element, as its nervous system is undeveloped at birth. Human milk is rich in lecithin, but unfortunately, this is not plentiful in cow's milk for the calf is born with a fully-developed nervous system and hence does not require it. As the lecithin is dissolved in the fat, in making the proportions of fat in diluted cow's milk equal to that in woman's milk, more than merely heat-producing food is accomplished.

It is important in actual practice to get at some simple and accurate method of accomplishing such a result; for this purpose, have pure, clean milk delivered in a quart bottle, and set it on ice or in cold water until the cream rises, by keeping it cool, the separation of cream is promoted, and at the same time bacterial growth retarded. It is generally known that in mixed milks, the quantities of fat and proteids are very nearly equal, and hence, it is always safer to use the mixed milk from a herd of cows, from this standard of purity and uniformity. If the whole milk contains 3 per cent. butter fat, it will likewise contain about 3 per cent. proteid; if 4 per cent. butter fat, about 4 per cent. proteid. The proteid practically does not rise above 4 per cent. in richer milks, such as those containing 4½ or 5 per cent. butter fat; thus, if we know the butter fat in whole milk, we can tell closely the strength of the proteid, while in creams there is practically the same amount of proteid as found in the whole milk. In any quart bottle of milk on which the cream has risen, certain layers of the top milk will contain a very constant ratio between the fats and proteids, and by removing these layers we get certain nutritive values at various depths from the top.

To utilize this idea Chapin has devised a dipper which holds an ounce, which can be lowered various depths in a bottle of milk; he states that it will be seen that the top 9 ounces will contain three times as much fat as proteids, and the top 16 ounces about twice as much fat as proteids, so for healthy infants under three months, dip off the top nine ounces, and mix in a pitcher or bowl. The top ounce must be removed with a teaspoon and placed in the dipper for measurement, as putting the dipper in at once would cause the bottle to overflow; experiments show that inserting the dipper into the bottle will not mix the cream with the underlying milk, as might be expected. For infants under three months, mix one part of this 9-ounce top-milk with from three to seven parts of diluent, and add one part of sugar to twenty parts of food to bring this element up to the right proportion. Use a teaspoon, tablespoon, or the dipper as a measure. Two level tablespoonfuls of granulated sugar or three of milk sugar equal about one ounce; the dipper scantily filled with granulated sugar, or heaped full with sugar, will stand for an ounce. Give from 2 to 4 ounces of this feeding mixture every two or three hours. For infants over three months, remove the top sixteen ounces from a quart bottle and mix; use one part of this 16-ounce top-milk with from one to four parts of diluent, and add one part of sugar to from twenty-five parts of food; give from 4 to 8 ounces of this feeding mixture every three hours. The problem of the best diluent has received more attention from pediatricians than any other question in infant feeding. Chapin advocates a digested or dextrinized gruel as a diluent, for several reasons; when cow's milk is diluted with water to suit the infant's digestion, the amount of proteid, or cell-building food, is reduced below that usually found in breast milk. When a digested gruel is used as a diluent, the amount of proteid received by the infant is increased, and, at the same time, the attenuation and digestion of the proteids (curd) of cow's milk is rendered easier. The starch of the gruel, being rendered soluble, is not liable to fermentation in the intestinal canal. Mother's milk contains a larger proportion of lactalbumin, or albumin in an easily soluble form, than cow's milk, and the dilution of the latter lessens still more this valuable ingredient. When food is taken into the human stomach a quickly-soluble portion greatly enhances the vigor of digestion. The soluble gruel thus, to a certain extent, makes up for the deficiency of lactalbumin in the diluted cow's milk. The digested gruels are made by boiling wheat, barley, oatmeal, or rice until a thick gruel is formed. A heaped tablespoonful of flour, or twice as much of the flaked cereal, is added to the pint of water and boiled for half an hour. If a double boiler is used there will be no danger of burning the gruel. After thus cooking, the boiler is placed in cold water, and, when the gruel is cool enough, add.

The Swedes have an invention for purifying milk mechanically. This is described by Diffloth as follows: The milk is strained through two wire strainers, holding between them a flat, round, small sheet of cotton, which thrown away and replaced by a fresh disc of cotton each time. In eight months of tests with this cotton filter his inoculation of animals with the milk never caused disease, and the milk thus filtered could be kept for days without souring. Diffloth considers the results of these tests as very remarkable in regard to the preservation of the chemical composition and of the digestibility of the milk, but as the milk was obtained from a model dairy they are not especially conclusive in respect to the microbes. Centrifugation has no effect on pathogenic germs in milk, or is liable to favor their proliferation; stock raisers have found it necessary to pasteurize "skim milk" from the creameries before feeding it to their pigs, as it is much harder to preserve than "skim milk" from natural cream rising. Centrifugation also interferes with what Diffloth calls the "stereochemistry" of the milk, that is, the molecular arrangement of its constituents.

In clinical study of Laboratory Milk as a substitute in infant feeding, by Starr, he states that laboratory milk being prescribed, it is possible for the physician to supply an artificial food identical in chemical composition with normal human milk, and at the same time to vary at will and accurately the percentage of fat, sugar, and proteids, to meet the demands of each infant's digestive powers and developmental requirements. The best laboratory milk that science has yet devised does not bear this theory out; for example, in thirty-five cases the results of this feeding were unsatisfactory, and in sixteen partially satisfactory. Three healthy infants did well upon the food. The trouble seems to be that in its composition all the fat is removed by a separator, and the food as prepared for the infant is a re-combination of this fat and an alkaline solution of the proteids and sugar; the natural emulsion seems to be destroyed, lessening the digestibility of the proteids and leading to conditions either of malnutrition or to an irritative diarrhea with the expulsion of the undigested proteids in the form of compact curds, despite changes in the proportion of the proteids. The cream, sugar of milk, and water mixture made carefully at home constitutes a modified milk, with a basis of unseparated milk or a natural emulsion, containing fat, proteids, sugar and salts. Under this physical condition the proteids are much more easily digested, so that a badly nourished child of ten months, in whom laboratory milk-percentage cannot be forced higher than 1.50 proteids, will easily digest and grow strong upon a domestic mixture containing 2.97 proteids. The milk and cream from a dairy may vary slightly in chemical composition from day to day, but this variation is a minor detail, and of questionable importance when compared with the separator's destruction of the physical properties of the basal milk. Do not sacrifice everything to chemical accuracy, is Starr's conclusion; and it is a very wise one. "Milk whey" is recommended by many pediatrists; it is made in this way: Thirty ounces of good fresh milk are placed in the bottle, and the heat is raised to 104° F.; add 2 teaspoonfuls of essence of rennet and set aside for a few minutes. When curdling has taken place, thoroughly break up the curd by stirring and shaking up the bottle; then strain through fine muslin or a colander. Prepared in this way, with or without an addition of 2 or 3 drachms of milk-sugar to the pint, it makes a useful food for newly-born infants artificially fed, or for infants who suffer from chronic vomiting or with liquid, green and curdy stools. They often gain weight and are more comfortable than when taking diluted milk. It may be convenient to give dyspeptic infants whey at first, or even dilute the whey with a solution of maltose or barley-water as such infants cannot always digest as much as 2 per cent. of fat in their food. As they improve, add milk to the whey, or "top milk," as their digestive powers gain strength. It is always well to add a grain of bicarbonate of soda to render the mixtures neutral or alkaline.

Eastes examined one hundred and eighty-six milks, tubercle bacilli were present in eleven, and doubtful in two others. One was doubtful because only one bacillus, morphologically correct, was found, the other because of the right color; the beading was not apparent in any except one, and in that only imperfectly. In forty-seven there was pus, and muco-pus was present in seventy-seven. Both of these objectionable features were absent in fifty-one cases, and the question was undecided in the other eleven. Blood was noted in twenty-four samples, absent in seventy-seven, and probably absent in eighty-five. Streptococci were found in one hundred and six cases, absent in fifty-three, and undetermined in twenty-seven; while colostrum corpuscles were detected in sixteen specimens. The percentages in the mixed work out as follows: 5.3 per cent. contained tubercle bacilli, 30 per cent. contained pus, and 48.7 per cent. muco-pus, these varieties being therefore present in 78.7 per cent. of all mixed milks examined. It was absent in only 15 per cent., and doubtful in the other 6.3 per cent. Streptococci were found in 75.2 per cent. of the samples, absent in 15 per cent., and doubtful in the remaining 9.8 per cent. Milk containing pus or muco-pus and streptococci is unfit for human consumption. Milk derived from pasture-fed cows is less likely to be contaminated than that from cows which are stall-fed. The condition of mixed milk should be made more widely known and the conscience of the farmer aroused, so that he may isolate cows suffering from inflamed udders, and not permit their milk to be mixed with that of healthy animals.

There must be a gathered knowledge of the principles of nutrition, especially as they apply to infancy; the practitioner will know what is essential to the future welfare of a given infant, and order food that will suit its condition, as varied in character as the drugs he gives. Growth is cell division, with a specialization of cells, and hence during the period of its rapid growth the infant urgently needs a sufficient supply of cell-building food—or protein; while the body heat is maintained by the combustion of the fat and sugar consumed, these factors cannot be converted into proteid, or animal cells. Any excess of fat or sugar above the quantity required to maintain body heat is stored up as fat in the infant. Proteid can also be used as fuel,' and if there is not enough fat and sugar in the food to furnish heat, the proteid will be burned up, and there will be no gain in weight or increase in strength. Should the quantity of proteid in the food be too low, while there is more fat and sugar than is consumed, the baby will gain in weight and be fat, but anemic; and these babies show little resistance to disease. It has been proved by experiments on the lower animals that the vitality and future welfare of a young animal depend on a liberal supply of proteid while it is growing; and the size of the vital organs, strength of bone, and quantity of blood are greater in animals receiving a liberal supply of proteid. Nature varies the milk intended as the food for young animals with the species, but they all contain fat, proteids, sugar and mineral matter, in different proportions. The animals growing the fastest require the most proteid, and the milk of such animals is richest in the proteids. A human child grows slowly as compared with animals that attain full development within a year or two of birth, such as calves, and we accordingly find that woman's milk contains a smaller quantity of proteid than cow's milk. The usual method of feeding infants is to make up from cow's milk a mixture that contains the same quantities of fat, proteids, and sugar as is found in human milk of medium richness; but many young babies have difficulty in digesting such a mixture, and the proteids cause the principal trouble; nor is this to be wondered at, since the milk of each species, beside adding nutrition, develop the digestive tract; when a young animal is born, it has never used this tract, and accordingly the digestive process is set up gradually. The colostrum promotes the movement of the bowels, and its ingredients can be absorbed with little digestive effort; the mammary gland gradually changes its output into milk, and the flow of the digestive juices increases. Milk curds in the stomach, the object of this being to develop the mechanical function of the digestive tract; for if milk were all soluble, nothing but absorption would be required, and later, when solid food is required the stomach would be unable to take care of it.

The importance of a pure milk supply is shown by Kober, who reports 330 outbreaks of infectious diseases spread through the milk supply; the number includes 195 epidemics of typhoid fever, in 148 of which the disease prevailed at the farm or dairy. In 99 scarlet fever epidemics, 68 showed cases of this disease at the dairy or milk farm; while of the 36 diphtheria outbreaks, 13 showed cases at the dairy farm. Whey is advised by many authorities as a diluent of cream, modifying cow's milk so that its proportions of caseinogen and whey proteids will closely correspond to human milk; the best temperature for destroying the rennet enzyme in whey being 65.5° C. Whey or whey mixtures should not be heated above 69.3°, to avoid the coagulation of whey proteids. Whey-cream mixtures prepared on this basis were found to contain from .25 per cent. to .90 per cent. whey proteids; caseinogen, .25 per cent.; fats, 1 per cent. to 4 per cent., and milk-sugar 4 per cent. to 7 per cent. The emulsion of fat in whey, barley-water, gravity-cream, and centrifugal cream mixtures have been demonstrated as the same macro- and microscopically.

Chapin divides milks into two great classes: 1st. Those that form hard, solid curds with rennet—cow's and goat's milk; 2nd. Those that form soft, flaky curds with rennet—woman's, mare's and ass's milk. Diluting with wheat or barley gruel in which the starch has been digested breaks up the curds; this digested gruel is made by boiling a heaped tablespoonful of flour with a pint of water, cooling, and adding a solution of diastase, that can be made at home from malted barley grains or from diastase; the curds of milk with a digested gruel diluent passed through a sieve having 900 meshes to the square inch; those with water diluent remained on the sieve. Chapin advises to have milk bottled and cooled at the dairy; then dip off the top, 9 to 16 ounces, into a pitcher or bowl. Here fat and proteids are in about the same ratio as in woman's milk. Prepare the digested gruel. Make the infant's food one-eighth to one-third of 9 ounces top milk, or one-eighth to two-thirds of 16 ounces top milk, the balance digested gruel, adding 1 part sugar to 20 or 25 parts food. Accurate percentages are not needed by this method, as nearly the same percentage results will be attained with any milk, rich milk will be diluted more, poor milk less; and each additional ounce removed from milk bottles reduces fat in top milk 5 per cent. to 1 per cent., cutting down the fat in infant's food ⅛ to ½ per cent., depending on the dilution. The important point is to procure first strictly clean, fresh cow's milk, and then to dilute it properly.

In so-called dyspeptic infant diarrhea, if milk feeding is continued a virulent infection will follow; but in the great majority of cases the streptococcus and colon bacillus play an unimportant part at the commencement of the illness. No milk should be allowed until the stools approximate the normal. The milk substitute often found most valuable is a cereal water, such as barley-water or rice-water; take baked barley flour, two tablespoonfuls, water one pint; boil for thirty minutes, strain, and water added so that there is one pint when the cooking is over. A good mixture is 4 or 5 ounces of barley-water and 1 or 2 ounces of broth-beef, mutton, or chicken. Two tablespoonfuls of beef juice added to the cereal water, often makes a suitable change. Using carbohydrates the nature of the intestinal contents is changed from one of putrefaction to fermentation, which does not furnish a favorable soil for the growth of micro-organisms. It is impossible to give a stronger barley-water than two tablespoonfuls to a pint of water for any length of time; twice this amount may be taken if the cereal is dextrinized. Four tablespoonfuls of barley flour to a pint of water, give a food strength of approximately: 14 fat, 6 proteid, and 4 soluble carbohydrates.

As it is well known that millions of germs are swallowed daily without ill effect, it is self-evident that there must be some additional factor present when milk produces disease, such as extreme youth, for the infantile resistance is very low, or lowered vitality from any cause is an important factor. In such states, saprophytes, otherwise harmless, become active in disease production. While there is relationship between the degree or kind of infection and certain bacteria, yet no single organism is responsible for the alimentary infections in infancy. Certain bacteria produce only local irritation, others a considerable degree of toxemia and others intense toxemia with severe local lesions in the mucosa.

As to drugs calomel should be preferred where there is vomiting, and when the case is not particularly urgent, 1/20 to 1/10 grain can be prescribed at hour intervals, but castor oil is better in the acute septic cases with infrequent stools and without stomach involvement, in which is needed a prompt washing out of the small intestine. Bismuth subnitrate in doses of at least 10 grains every one or two of the waking hours, regardless of the age of the patient; to be of service must produce black stools, for if bismuth passes through the bowel unchanged, no influence will be exerted upon the contents of the intestinal tract. Precipitated sulphur in 1 grain powder may be given with each dose of the bismuth for this effect. The bismuth should be continued in large doses until the child is ready for milk, and then the dosage should be diminished one-half and continued until milk feeding is possible. The indications for opium are pain, tenesmus and frequent stools, while the cases that are benefited by irrigation are those that have a moderate number of green mucous stools with or without blood, but too frequent irrigation is to be condemned.

Papain possesses antiseptic digestive powers while also non-irritative and harmless, being derived from the tropical plant carica papaya, indigenous in Brazil; it dissolves albumin and fibrin, and has the advantage over pepsin of activity in neutral and alkaline liquids as well as in acid, possessing peptonizing power in the intestine. Golinger has used it largely in intestinal catarrh in infants and young children with good results. As a rule, he ordered one and a half grains three times daily for nursing infants, each dose followed fifteen minutes later with oatmeal gruel or diluted cow's milk, while for children over one year old it is better to make the dose 3 to 4 grains, while Joachim gives the following experience with Tannopine: (1) It is completely innocuous and can be administered without risk to the smallest infants in doses of 5 to 7 grains four times daily, and to older children and adults in doses 7 to 15 grains several times daily, because decomposition into its two constituents evidently take places very slowly in the intestinal canal. (2) It is an efficient medicament in all forms of enteritis, its value being doubtful only in the tuberculous form. (3) It is advisable to continue the use of the drug in small doses for a few days after the bowels appear to have regained their normal function.

For acute gastrointestinal infection in infants Kerley gives at the onset 1 grain of calomel in divided doses of one-sixth of a grain every thirty minutes; should vomiting be troublesome he advises 1/30 to 1/40 of a grain every fifteen minutes until the desired amount has been given. The diet consists of barley-water, the barley being cooked three hours; wine whey (½ an ounce of sherry wine to 10 ounces of whey); liquid peptonoids, 1 drachm every three hours; weak albumin water (white of egg to a pint of boiled water); beef juice, diluted, 1 part to 24 of boiled water. The following prescription, or some modification of it, is ordered: (Kerley):

℞ Bismuth Subnitrate
(Squibb) grs. xij to xx
Bismuth Salicylate gr. j.
Water, enough to make ℥j
Aromatic Tincture of Rhubarb...........mj to ij

This is given hourly (12 to 20 grains of bismuth to a child one year old).

In the renal complications of the acute infantile diarrheas aside from cholera infantum, it is probable that more or less marked degenerative changes occur in many cases due to the action of bacteria or of toxins, almost always to the latter, while inflammatory changes are uncommon. As the result albumin and renal elements may be found in the urine; albuminuria occurring in about 15 per cent. of all cases. The sediment contains casts, usually hyaline and fine granular, in about 60 per cent. of the cases in which albuminuria is present; but the presence of albumin and casts does not justify the term "nephritis," for nephritis is a very unusual complication of the acute diarrheal diseases in infants. The occurrence of albumin and renal elements in the urine is not dependent upon any other symptom or combination of symptoms, and it is not a sign for bad prognosis. It is probable that more marked pathological changes, possibly somewhat different in their nature, occur in cholera infantum, and that the resultant changes in the urine are also more marked; probably, however, they are of greater prognostic importance.

There exists a popular impression that after the first year is past a child can eat almost any food, but here the physician should not relax his vigilance, for such ideas are very erroneous and the majority of infants are given solid food too early and in too large quantities;

most of the attacks of indigestion during the second year being directly traceable to such mistakes. The diet of a healthy child during the second year should consist of milk, some farinaceous food, bread, a small amount of animal food, such as beef or mutton, beef juice, eggs, and fruit, for milk should be still the basis of the diet, and there are some infants for whom no modification of the milk is necessary, as they are able to digest without difficulty that containing 4 per cent. proteids, but the great majority of infants do better if the proteids are kept at 3 or 3.5 per cent. during the first half of the second year, as Holt points out, for-if the fat is 4 per cent., chronic constipation, usually so troublesome at this time, may often be avoided. The child being now able to take a considerable proportion of its carbohydrates in the form of starch, it is unnecessary to continue the large quantity of milk sugar given during the first year, and in many cases the sugar may be omitted; but where starch-digestion is so feeble that only a small quantity of farinaceous food can be allowed, it may be necessary to continue the milk-sugar during the entire second year. The formulæ most generally useful during this period are (Holt):

At 12 months: Fat, 4.0%; sugar, 5.0%; proteids, 3.0%
At 15 months: Fat, 4.0%; sugar, 5.0%; proteids, 3.5%
At 18 months: Fat 3.5%; sugar, 4.3%; proteids, 4.0% (i. e., plain milk).

Approximate these formulas by using the following proportions for one feeding of ten ounces:

Milk, 6 oz.: cream (16%), 1 oz.; water, 3 oz.; sugar, 2 even teaspoonfuls.

Milk, 8 oz.: cream (16%), ½ oz.; water, 1½ oz.; sugar, 1 even teaspoonful.

The best way to add farinaceous food in the form of a gruel made of one of the cereals or farinaceous foods: the latter being partly dextrinized, require but ten to fifteen minutes cooking; should prepared flours be used, one even tablespoonful should be added to one pint of water, to make a gruel of about the proper strength. A gruel or jelly made from oats, wheat, or barley is excellent, while, if the grains are used, they should first be soaked for six hours or over night in water which is thrown away, and then cooked for from four to six hours and strained through muslin. Two tablespoonfuls of the grains to one quart of water, cooked down to one pint, give a jelly of about the desired consistency; salt always being added. During the first half of the second year children require from forty to fifty ounces of fluid food daily, during the second half of the year from forty-five ounces. This quantity should be given in five feedings; four of these being of equal size, one—usually the midday feeding, which is given in connection with the meat or meat juice—being smaller. Beef juice may be given as during the latter part of the first year, the amount allowed being from one to three ounces daily. After the child is eighteen months old if most of the teeth are present, rare scraped beef or mutton may be given in place of the beef juice, but not more than a tablespoonful should be allowed daily. After the eighteenth month, a soft-boiled fresh egg may also be given in place of the meat or meat juice, once or twice a week. Stale bread dried in the oven, or a piece of zwieback may be given, usually with the midday meal, after the child has most of its teeth; while fruit is a part of the diet which is often neglected; orange juice may be begun as early as the fifteenth month; from half an ounce to two ounces daily, while later one or two tablespoonfuls of baked apple or two or three stewed prunes may be added. Both should be cooked until they are very soft. The baked apple should be given without sugar, and the prunes should be put through a sieve to remove skins. The best time for giving fruit is about an hour before one of the milk meals.

Holt says that the daily diet for a child of eighteen months should be arranged somewhat as follows: The first, second, and fifth meals should each consist of ten or twelve ounces of milk prepared with gruel, as above described, the fruit being an hour before the second feeding. The third meal should consist of six or seven ounces of the milk and gruel, with beef juice, scraped beef, or egg, and dried bread. The form of farinaceous food may be varied from day to day, according to the child's taste. All other food may be advantageously omitted. Water only to be given between meals. The milk for the twenty-four hours is best prepared at one time, while the quantity needed for the different feedings should be put in separate bottles, as during the first year.

CLINICAL EXPERIENCES WITH TYPHOID FEVER.

BY A. N. ULRICH, M.D.

IN the autumn generally typhoid fever is prevalent; why, we do not know, but it is a fact that we are likely to meet many such cases for the next three or four months. In abortive cases of typhoid fever, a very small dose of the germ has been introduced into the system, where it lives but a brief period, possible because the phagocytes in the body are strong and capable, dwarfing the process. Such cases are difficult to diagnose; this is a typical history: a patient is ill for a week, and he has all the appearances of a typhoid fever patient, and one naturally supposes that his fever would go on but his temperature falls, and he soon gets well. In these abortive cases there are no means of putting the diagnosis to the proof by any post-mortem examination and we can only judge by the nature of the symptoms. While the Widal test is often negative this fever is a disease of young people. Typhoid becomes rare after forty years of age. Childhood is not exempt from the disease yet it is most severe at a period between twenty and twenty-five years of age, for it is a fact that about a quarter of the deaths occur in patients at the age of twenty or twenty-five. As people age, they become less susceptible to the action of the bacillus and it is quite certain that those parts of the body which are the seats of selection become wasted in old people; the solitary glands of the intestine, as occurs in other glands in the body, degenerate, with a diminution of their functional activity; but the lymphatic and glandular system in young people is active and vigorous, and hence any disease occurring in the lymphatic and glandular system of the young are apt to be more acute. In studying the duration of typhoid while cases sometimes recover at the end of three weeks, and other cases linger in the wards and elsewhere, where patients remain ill for five, six, seven, nine or ten weeks, but a typical attack, is a twenty-eight day fever. Then if all goes well, and the patient is carefully treated and shielded from all possible complications, the fever leaves and convalescence appears. No method of treatment and no remedies have any effect in aborting the typhoid process. The earliest symptom of typhoid fever is a general feeling of malaise; the patient does not feel well; he does not know what is the matter with him, but he is unfit for his work, languid and chilly, his head aches, and a disagreeable taste in his mouth, which lasts for some time, and this condition is accompanied by fever. Here is where the patient does himself harm, for he thinks very often that he has caught cold, or that his liver is out of order, or that he requires stimulation; consequently, he proceeds to take an aperient to act upon the liver, which is not a wise thing to do; or else he thinks he is low and weak, so he proceeds to feed up—takes more food and more wine, and tries to recover his health by stuffing. Thinking perhaps that he is merely out of sorts, he proceeds to take more exercise; all of these methods are unfortunate, especially the practice of taking an aperient. As a matter of routine you always should suspect the possibility of typhoid fever in any case of fever for which you cannot readily find a cause. The thermometer should prevent mistakes in the early diagnosis of enteric fever; I do not think much of the Widal test. The danger of any aperient and the danger of fatigue is apparent.

Here is another point in the start of typhoid: suppose a patient comes down with it a long way from home—it attacks the stranger and the traveler—especially in many parts of the continent, in Mexico, and in summer resorts where the drainage is bad and the water supply is more than doubtful. If the diagnosis of typhoid fever is made the first impulse of the patient when he realizes that he is in for a severe illness is to go home; and he naturally wishes to return to his family. It is most unwise if he proceeds to go home. This means a journey of perhaps several days and nights, and then this unfortunate patient, who is already the subject of typhoid fever, delivers himself into the hands of his family or his friends a complete wreck, to crawl into bed, exhausted, and having had very improper food; he puts himself into the worst possible position for recovery. Put such a patient in to bed wherever he is and keep him there. When consulted about moving a typhoid patient, always say, "Let him stay where he is;" do not run the great risk involved in bringing him home. That will often save life, and it has often done so, whereas other procedure has again and again proved fatal. In any acute severe illness, the best plan is always to get your patient into the best room you can secure for him; no room is too good to be sick in; the best room in the house, one with a good outlook, plenty of cubic space in it, plenty of doors and windows, and with all arrangements that lend themselves for nursing. It is better, if possible, to have two rooms, one for the day and one for the night; have two beds for your fever patient, one for the day and one for the night. The patient is readily slipped from one to the other, and two good nurses are really required; a severe illness is always expensive, but that is a little moment if you can save life. The Eberth bacilli make their special habitat in the intestines, yet they will ultimately go all over the body, and be found in every solid and liquid, yet the specific selection is the solitary and agminated glands of the small intestine, from the lower part of the duodenum down to ileo-cecal valve, the process increasing downward. The process being one of progressive swelling, softening, ulceration, and necrosis in the solitary and agminated glands, care in prescribing the food for patients suffering from this disease is all important. The mucous membrane being necrosed, there is but a thin partition between the intestine and the peritoneal cavity, the great risk being that these ulcers shall rupture the peritoneal coat. The best diets are milk, thin broths, sometimes a little farinaceous food, such as arrow-root, but not much, the chief articles of diet being milk and animal broth, with no solid food at all. Milk is a strong food; a pint of milk is equal to a mutton chop, and therefore do not prescribe undue supplies of milk for a patient, if he does not require it. The diet for all febrile states is mainly milk and beef tea; in fever the salivary glands, the pancreas, and other glands which take part especially in the digestion of starchy food do not perform their functions properly; therefore the digestion of starchy food becomes difficult; still you can use a little of it. In using milk remember one precaution; milk, during the process of digestion, becomes converted into curds, which, passing down the intestines become hard or even bulky, irritating the ulcerated surfaces. To avoid this, add to the milk one-fourth, and sometimes one-half of lime water, which prevents the curds becoming large, and allows the milk to curdle slowly into small granular particles, and to be much better digested, which partly checks the tendency to looseness of the bowels. Beef-tea is rather more apt to irritate the bowels than mutton-tea or chicken-tea;—hence any animal broth is preferable if there is much diarrhea. In constipation all through the attack use beef tea or any other animal broth, quenching the thirst freely with pure lukewarm water. I believe that no fruit should be allowed in typhoid fever, despite the fact that this precaution is not laid down in many text books. Some authorities speak of giving the patient lime-juice, or say that grapes are innocent things, taking care to remove the skin and the stones, but I believe grapes are not innocent, for the pulp of grapes is very bad, and you cannot trust your fever patient to masticate it sufficiently to render it harmless. Again, fruit juices often have a disturbing effect upon the bowels possibly turning the scale by increasing the diarrhea. I do not believe even in lemonade. The patient will get very sick of his dietary, but you cannot help that. Granulated malt, diluted with water or with milk, makes a very palatable and nourishing food for the typhoid patient; it is said that Eberth's bacillus flourishes luxuriantly in milk, but that it will not flourish in malt extracts; there may be something in this reasoning.

The typhoid headache may be very troublesome, but it may be relieved by a bag of ice applied to the forehead or sometimes by very hot sponging; depend on the patient's sensations; headaches as are not relieved by cold are often benefited by heat. For the restlessness and the bad nights that may occur during the first two weeks of the fever it is a poor rule to employ opiates; doses of bromide of potassium or of canabis indica in proper doses or combined in the form of bromidia, is suitable for the restlessness and sleeplessness. The state of the mouth varies; it may be clammy, crusted, and sometimes exceedingly foul; swab it out with some antiseptic, such as a strong solution of borax. In this manner you may get rid of a great deal of foul matter containing the bacillus, which goes on poisoning the system, and avoid the possibility of otitis from infection along the Eustachian tube.

Horton-Smith believes that the urine in typhoid should receive more attention than is commonly given and should be constantly sterilized, since it is probably more active in spreading the disease than are the feces. The latter are extremely infectious in the earlier stages of the disease and until about the third week; but commonly the bacilli rapidly disappear after this period, while bacilli are found in the urine in about one-half of the cases, usually in pure cultures, and they are likely to remain for weeks or often months, and are usually present in enormous numbers. He advises that urotropin be given in doses of 10 gr. three times a day in all cases in which the urine is shown by bacteriologic examination to contain bacilli. The simpler plan of sterilization of the voided urine is the only one to be used. Internal antiseptics are unnecessary and harmful.

Diarrhea sometimes is a severe and dangerous symptom, but as a rule, it is safe to leave the patient alone, provided that there are not more than three or four stools a day; if they reach five or more it is well to restrain them by giving a small enema of starch containing a little laudanum, ten to fifteen minims, in the rectum, or to give ten to fifteen minims of laudanum by the mouth at bedtime. There is no general drug for typhoid; for the infection dilute hydrochloric acid, in doses of ten to twelve minims every four or six hours, with a little peppermint water, is excellent, to which in the third week of the disease add half a grain of hydrochlorate of quinine. Dilute sulphuric acid may be used in the same way, especially if diarrhea is present. Bismuth, especially the carbonate or the salicylate, in doses of ten to fifteen grains three or four times daily, is often indicated. Feed sufficiently, but don't overfeed; the object is to maintain the strength of the heart, to help the patient through his troubles, which increase as the disease progresses; the worst thing about typhoid fever is that the patient has to pull through the greatest difficulties and complications at a time when he is least able to the task. The ulceration increases, and the patient becomes weaker towards the end of the disease, from the 21st to the 25th day; worn out by continued fever, exhausted by diarrhea there is a call for nourishment to keep up the strength of his heart, and to maintain a healthy process in the intestines. Typhoid fever is always a dangerous disease, even under the most favorable circumstances; remember that the strength must be maintained and the heart kept working steadily, gauging the condition of the patient very much by the state of the heart and pulse daily. If the patient becomes weaker, his pulse grows weaker, smaller in volume, less in arterial pressure, and it may become double or dicrotic. When the heart-sounds become enfeebled, and the first one almost inaudible at the base, we have "Stoke's indication for stimulants." Tympanites is a sign of general debility, nervousness and exhaustion, not merely meaning that the intestines are blown up and distended, but that their muscular fibres cannot contract upon their contents, for they are relaxed and powerless. The muscular tone and the nervous tone are both at a low ebb, and this is an indication that the powers of life require some invigoration. This stimulation may easily be secured by alcohol. When these conditions arise if the belly swells and the pulse becomes soft, employ some stimulant, anticipating further signs of weakness coming on, and so help the patient on towards the great ordeal of his illness, at the end of his third week, but don't begin the stimulants before they are needed, for not every case of typhoid fever requires stimulation. Some young patients, smitten with typhoid fever, may go all through their illness without a single tablespoonful of brandy. Other people, again, cannot go through their illness without a very large quantity of stimulants, needing eight, ten, twelve, or even twenty ounces of brandy a day. It is impossible to state how any case is going to turn out. As Duckworth says, "Do not tie your hands and say 'I never give stimulants in typhoid fever.'" Use what is demanded—that is, what your skill and knowledge tell you is needed, being careful not to overstimulate the patient. It is quite conceivable that under certain circumstances some patient might be benefited by a little good "wine," but be sure that it is good wine; but to call for "wine" in the ordinary sense of the word, not knowing what your patient is going to get is bad policy. Not even champagne is called for; it may be very grateful and the patient likes it, but it is not safe, because it is likely to upset the action of the bowels. Make it a rule then, to use only such alcoholic drugs as brandy or whiskey; begin with a couple of ounces—perhaps less—one, two, three or four, according to circumstances. An average quantity for a bad case would be some three or four ounces; the amount should seldom exceed that, although six or eight may be requisite.

Should the tympanites not be relieved by proper feeding and stimulants, pass a soft rubber tube into the rectum, which will often liberate a quantity of gas and relieve the distention. Turpentine stupes have been recommended; I have never seen any good come from my practice. Charcoal in tablespoonful doses has been advised; it is ineffectual, and lodges as foreign matter in the ulcers. When there is great nervous exhaustion use of full doses of Hoffmann's anodyne and drachm doses of tincture of musk every two hours is good. Hypodermic injections of strychnine are sometimes most useful, and distinctly save life in grave cases. Instead of diarrhea constipation may be a troublesome symptom through the disease; always examine the patient's abdomen and ascertain the condition of the sigmoid flexure. A daily exploration of the belly is one of the greatest indications, and you should ascertain the general distention of it, and therewith the degree of nervous power possessed by the patient. You also want to know whether the spleen continues to be large, or is becoming smaller. Fecal matter in the sigmoid flexure, if retained, are apt to produce sudden accessions of temperature, otherwise not accounted for. Sometimes the patient is apparently going on well, but the temperature is going up; fearing a relapse and further involvement for another three weeks, you will frequently find that this is explained by finding lumps in the sigmoid flexure. Give an enema of gruel, or soap and water, and the patient goes on well. Never give purgatives from above if you can possibly help it. Wash out the bowels from below, and wait for a natural action. Another grave feature is bleeding from the ulcers. There are two periods at which this may occur, which are described respectively as "early" and "late" hemorrhage; hemorrhage when the ulcerations have hardly begun, when the swollen patches become hyperemically congested; or the vessels break, and oozing of small quantities of blood occurs; it is practically of no consequence, and need not be treated. The "late" hemorrhage, occurring about the twenty-first day, when the sloughs are separating from the ulcers, is the most serious. You may find a small hemorrhage—an ounce or so—or there may be a pint or two, or there may be hemorrhage again and again until the patient is blanched, and death may result. That is a most serious and dangerous complication, and when that symptom occurs withhold all milk, even milk and water; give nothing except simple bland fluids, such as beef essence, mutton essence, barley-water, and alum-whey, made by adding to a pint of boiled milk a teaspoonful of powdered alum; strain off the whey and administer that. It is an astringent, and certainly feeds the patient; keep the bowels perfectly at rest when there is any risk of hemorrhage; you want to stop all peristaltic action if you can; and the best drug for that is opium, "putting a splint on the bowels"; use it freely, and so as not to disturb the stomach; you therefore give it by the rectum. In these cases administer thirty or forty minims of laudanum in an ounce of gruel or thin starch-decoction; it has a marvellous effect in quieting the whole length of the alimentary canal, and puts the patient asleep. Anything that opium cannot do I do not believe any other drug can do. Heart-failure as a symptom you should meet by giving alcohol. If delirium sets in, it is a sign that the patient is starving and is low, and that means a little more food and brandy. Tremors affecting the limbs and the jaw and tympanites commonly occur together, and mean that a little more sustaining food and stimulant are wanted. You may have to increase the stimulants as time goes on. There may be some degree of albuminuria; it is generally symptomatic, but not serious, and will pass off as the patient gets well. There may be excessive temperature—hyperpyrexia. That is a serious symptom. A great many measures have been recommended for overcoming this. A temperature of 104° F. may be looked upon as favorable. I regard such moderate temperatures as helpful, but if the pyrexia increases it will certainly damage the integrity of the several viscera. Anything above 104° means that a cooling-down process is necessary, and then put a cradle on the bed and a sheet over that, so as to allow a current of air to pass over the patient. If the temperature still rises in spite of the cradle, then the patient is sponged with ice-water, which is a powerful reducer of temperature. If that also fails, bags of ice are suspended from the top of the cradle, and a Leiter's cap is put on the head. In the great majority of cases these measures, or some of them, are sufficient. The method of bathing typhoid-fever patients is much in vogue in Germany, but I do not feel that it is necessary.

If followed do as Baruch says: As soon as a patient shows a rectal temperature of 102.5° in the morning and 103° in the evening for three successive days, especially if this be accompanied by headache, dulness, or apathy, he is placed in a full bath at 90°, which is reduced to 80°, with constant friction over the body. In three hours, the temperature still being above 102.5°, he receives another bath five degrees cooler. This is repeated until the temperature of the bath is 75°. If one or more of these baths fail to reduce the rectal temperature two degrees in half an hour, the diagnosis of typhoid fever is almost certain, and the bath treatment is continued. The resistance of the rectal temperature to a bath of 75° for fifteen minutes with friction is an almost certain test of typhoid fever."

Eliot, while insisting on the necessity of absolute rest in bed, quiet, and liquid food until the temperature has remained below 99° F., during the whole twenty-four hours for a week at least, also commends carbolic acid and iodine as the best antiseptics as well as gastric sedatives, relieving nausea and vomiting. These are administered in the following mixture:

℞ Ac. Carbol.........ʒj Tinc. Iodi........ʒiij

M. Ft. Mist.—Sig. 4 drops in a wineglassful of water every four hours.

Next to late hemorrhage comes perforation of the ulcerated bowel at some point as a serious complication. This is always a possible danger when there is deep ulceration, and the patient is of feeble constitution and had been imperfectly nourished during the course of the fever; general peritonitis rapidly sets in, the bacterium coli is set free, and a fatal ending follows. Improper feeding with fruit or crude matters often leads to this untoward result; give opium freely, and to try to secure a limitation to the spread of peritonitis. But such adhesions as form in these conditions generally prove too frail and inadequate to secure a closure of the breach thus made. The bold measures of modern aseptic surgery are little likely to prove of avail, even if they be practised, and the abdomen be opened and washed out. The patient is at lowest ebb, exhausted by prolonged fever, and in the worst possible condition to bear any operative interference; prevention, and not cure, is better.

The return to the normal diet is a puzzling problem always. Wait until the fever has gone for some days, and then gradually mend the diet and give a little slightly solid food, beginning with bread and milk pap, with custard, then pass on to fish, next to very lightly boiled eggs, then to pounded meat, and so on, gradually feeling your way and watching the effect. It is better to be a few days late in mending the diet than five minutes too soon, because, without doubt, relapses have been caused by giving solid food too soon, opening up the ulcers, and liberating new bacilli.

BRIEFS ON GENITO-URINARY SURGERY.

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NEUROSES OF THE PROSTATE.

CONSIDERING the abundant nervous supply of the prostate and its environs, especially its liberal endowment with sympathetic nerve filaments and resultant intimate association with the rectum, bladder, and other viscera, the occurrence of nervous phenomena of various kinds referable directly or indirectly to disturbance of the prostate is not surprising. It is true that many neurotic disturbances which I believe should come properly under the head of neuroses of the prostate originate primarily in demonstrable organic disease, but the clinical fact remains that pronounced nervous disturbance, such as direct or reflex neuralgia, and sometimes considerable psychic disturbance, may persist, constituting the principal source of disquiet long after the primary organic causes have wholly or partially disappeared. The primary condition may be of so little moment that there would be little or nothing to attract the attention of the physician were it not for the disproportionate nervous disturbance that results.

In using the term prostatic neurosis, I am well aware that a certain degree of ambiguity must necessarily enter into the consideration of the subject; but in the present state of our knowledge of disease, from practical clinical experience, and more especially to subserve the purpose of an intelligent therapy, the term seems sufficiently clear and comprehensive.

In considering prostatic neuroses there are several points to be borne in mind, viz.: (1) The physiologic and anatomic analogy between the prostate taken as a whole and the uterus; (2) the relation of the prostate to urination; (3) its sexual function; and, finally, (4) its intimate association with the rectum, anus, seminal vesicles, urethra and bladder.

Neuralgia of prostatic origin, unattended by evidence of organic disease or at most associated with very slight organic changes, is by no means rare. It is probable that a certain degree of hyperemia exists in the majority of cases of prostatic neuralgia; yet disturbance of the circulation does not seem absolutely essential. Hyperesthesia of the prostate is usually limited to its urethral portion, and is very frequently met with. Hyperesthesia and neuralgia are often associated, the former being the more likely to exist alone.

The causes of prostatic neuralgia and hyperesthesia are:

1. Sexual excesses and masturbation.
2. The gouty or rheumatic diathesis.
3. Traumatism of the prostate, surgical or accidental.
4. Acute or chronic congestion.
5. Acute or chronic infectious inflammation.
6. Urethral disease, notably stricture.
7. Foreign bodies or tumors in the bladder.
8. Psychic disturbance, with attendant mental suggestion incidental to
   a. Ignorance of sexual physiology and the influence of quack literature.
   b. Injudicious and perhaps unnecessary treatment of the prostate; or
   c. The prolonged duration of mental disturbance produced by actual organic disease.

The latter cases are especially liable to be associated with hyperemia. Prostatic catarrh—prostatorrhea—is also a frequent concomitant.

It would be difficult to dissociate the local irritation produced by highly acid urine in gouty and rheumatic patients from the exaggerated general nervous sensibility produced by lithemia. Many cases are found, however, in which neuralgic pain—referable to the perineum, anus, neck of the bladder, and urethra—is experienced by lithemic patients in whom the correction of the irritating acid properties of the urine is not followed by appreciable benefit until alkaline and antilithic remedies have modified the diathesis. I have recently had under observation a gentlman, 45 years of age, who has been for some years annoyed by neuralgic pain of the kind described, associated with intense hyperesthesia of the prostatic urethra. He was particularly annoyed by persistent erections at night, and, irrespective of the reaction of the urine, the act of urination giving him considerable pain. Careful examination of the bladder and the urethra *via the* endoscope, cystoscope, and mechanical exploration revealed no organic condition that would explain his symptoms. There was apparently no disturbance of the kidneys that might cause the condition by reflex irritation. The origin of the difficulty was probably a gouty constitution associated with strictures of large calibre. The latter were operated upon some years ago, with perfect success, save the failure to ameliorate the annoying symptoms described. Similar symptoms are often produced by rectal or anal irritation: a condition that was absent in this case. Neuralgic pain referable to the perineum and vesical neck, perhaps radiating into the testes, is by no means unusual in disease of the lower bowel. This is worthy of remembrance.

Neuralgia of the prostate following operations upon the organ, or operations upon the bladder involving it, is occasionally met with. I recall the case of a young man operated through the perineum for vesical drainage for the cure of obstinate cystitis, in whom the result was perfect, so far as the cystitis was concerned, but the patient has been tormented ever since by ano-perineal, crural, and testicular neuralgia. There is no condition of the prostate, bladder or rectum that explains the difficulty. In another case, a man operated for large-calibered penile stricture, persistent, deep-seated, intermittent perineal pain, frequent urination, and marked hyperesthesia of the prostatic urethra have existed for some years. Careful exploration fails to detect any condition that would explain the trouble. The urine is normal. Urethrotomy, while effective in curing the stricture, completely failed to relieve the prostatic neuralgia.

Acute and chronic hyperemia of the prostate are sometimes responsible for hyperesthesia and neuralgia of the organ, and in such cases the perturbation of blood supply is really the essential condition. Unfortunately, however, the pain is not only the most prominent feature in the mind of the patient, but it often persists in spite of all measures tending to correct the circulatory disturbance. That a strong psychic element enters into these cases, as, indeed, it does in the majority of cases of genito-urinary disease, is admitted. Psychic disturbance may be the starting-point, not only of vascular disturbance attended with neuralgia and hyperesthesia, but may produce neurotic phenomena independently of perturbation of the circulation. Prolonged and unnecessary treatment of the prostatic urethra is not only likely to produce hyperesthesia of the organ, but also persistent psychic disturbance, possibly hypochondriasis or even melancholia, with or without local pain. Hysteria in the male from this cause is not infrequent.

Psychoses from prostatic irritation are very frequent, but care must be taken to carefully discriminate between cases that are psychic *ab initio* and those in which the psychic element is simply an ingraft upon the symptoms produced by organic disturbance. Acute or chronic inflammation is usually the essential condition, but many cases occur in which, after the inflammation has disappeared, neuralgic pain—referable to the vesical neck and radiating into the perineum, testes, thighs, and rectum—persists in spite of all treatment, often perhaps because of it. Reflex prostatic irritation produced either by vesical or urethral disease is frequent. Urethral and perineal pain associated with stricture or stone in the bladder is a familiar example. Stricture occasionally produces neuralgia referable not only to the prostate, but apparently involving the entire bladder. One of my cases clearly demonstrates this clinical fact. A gentleman, thirty years of age, suffered from pain in the region of the bladder and frequent micturition for six or seven years. He had been operated for stricture some time prior to the beginning of the neuralgic pain and was inclined to attribute his trouble to the urethrotomy. Examination revealed several stricture bands of large calibre that had evidently escaped the original operation. A second urethrotomy was performed with perfect relief of the symptoms. A peculiar feature in this case was severe hypogastric pain whenever the urine was held for several hours. This has completely disappeared since the operation.

The term prostatic hyperesthesia should comprehend the condition of so-called vesical irritability that has been described by some authors as "neuralgia of the vesical neck." The more important and highly sensitive parts involved in the sexual and urinary functions are integral parts of the prostate. The prostatic urethra derives most of its importance (save that incidental to its function as an outlet for the bladder) from certain anatomic and physiologic peculiarities of the prostate proper. The elaborate and highly sensitive nervous supply of the prostate is the seat of urinary desire; its nervous supply, by virtue of special nervous filaments supplied chiefly to the caput gallinaginis, is responsible for the voluptuous sensations incidental to coitus.

Hyperesthesia of the prostate manifests itself in two ways: (1) Exaggerated sensibility of the prostatic urethra to the pressure of urine, with resultant frequent micturition. This may be associated with inhibition of the function of the false vesical sphincter, as a consequence of which the urine enters the highly sensitive prostatic urethra at more frequent intervals. The capacity of the bladder itself is probably diminished by reflex irritation of the vesical muscle. A careful consideration of the physiology of micturition readily explains the so-called vesical irritability resulting from prostatic hyperesthesia. (2.) The sexual function of the prostate is likely to be profoundly disturbed by hyperesthesia of the organ, particularly if the caput gallinaginis be involved. Nocturnal pollutions, imperfect erection and premature orgasm, or perhaps complete *impotentia cœundi* may result, these conditions being not always amenable to treatment.

Treatment: Neuroses of prostatic origin constitute a most emphatic indication for attention to genito-urinary hygiene. Careful regulation of diet, attention to the various emunctories, and careful supervision of sexual habits are the keynote of treatment. Remedies for lithemia are often essential. Regulation of the diet, however, is more important in such cases. Tobacco and liquor especially are to be interdicted. Certain sedative remedies are often of great value. The bromides, camphor—or their combination, camphor monobromid—and gelsemium are of especial value, the latter remedy being perhaps most reliable. Ergot is often of great service. Cold Sitz baths and enemata are useful. Careful attention should be paid to the condition of the bowels; strong cathartics should be avoided and mild laxatives given. The local measures of treatment are numerous, but often unsatisfactory. In some cases in which there is a strong psychic element, a cold sound or the psychrophor is serviceable. Should actual organic disease of the prostatic urethra exist, however, such measures may do harm. In some cases the nervous organization of the patient is such that local treatment merely directs his attention to the part and exaggerates his symptoms. In cases where there is disease of the mucous membrane of the prostatic urethra, the judicious application of silver nitrate with the deep urethral syringe or endoscope is of value. Deep urethral injections, however, have probably been productive of more damage in this class of cases than in any other that could be mentioned. Many cases of neuralgia and hyperesthesia of the prostate, in which there primarily existed no pathological change whatever in the deep urethral mucous membrane, are treated so assiduously by deep urethral injections that the erroneous diagnosis of disease of the prostatic urethra is made good by the development of genuine pathologic conditions. It appears very illogical, in cases in which careful local examination and conscientious urinalysis fail to show organic disease, to treat the prostatic urethra by frequent injections of the silver nitrate to cure a posterior urethritis existing only in the mind of the practitioner. The readiness with which the diagnosis of posterior urethritis, which happens to be the prevailing fad, may be made, and the ease with which one may supply himself with the necessary instruments for deep urethral injection, constitute a constant menace to many patients who have genito-urinary disease, real or imaginary.

In cases in which actual organic disease exists, the first duty of the surgeon is to institute appropriate measures for its removal. While it is best from a psychic standpoint to impress the patient with the radical result expected from the treatment, the surgeon should remember that even after the primary organic difficulty has been cured, the neurosis may remain. The experience derived from the removal of the original cause in reflex neuralgias in other situations has been that the neuralgia frequently persists in spite of a radical operation for the removal of the offending condition. The same clinical observation applies to neuralgia and hyperesthesia of the prostate.

Prostatic massage often gives great relief in the class of cases under consideration. It is especially serviceable in cases attended by hyperemia, with or without prostatorrhea.

Chronic Empyema of the Antrum of Highmore is discussed by P. L. Friedrich (*Deut. Med. Woch.*) who submits the results of his methods of treatment. Excessive foul secretion furnishes the main indication, and means of getting rid of it have necessitated laying open freely the antrum cavity. Friedrich would resect the anterior wall and would, in addition, establish sufficient communication into the nasal cavity on a level with the floor of the antrum. A flap is made which includes the ala nasi close to its base, the incision being about two centimetres long and carried down to the bone. From the middle of this another short incision is carried downward and outward. The flaps are reflected and the intervening soft parts down to the crista are displaced, until this bone is thoroughly exposed. The crista and one square centimetre of the anterior wall close to the floor of the antrum are removed, together with a part of the inferior turbinate bone, if this is in the way. This freely exposes the antrum, which may be readily explored and cleaned out. A tampon is then introduced which leads out through the nose, and the external wound is closed. Healing takes place promptly within a comparatively short space of time. The general experience with antrum abscess is that patients will not early enough submit to operation. That is why the usual operation *via* the canine fossa or the molar alveolus is so often ineffective. Oftentimes, too, there is delay until the frontal sinuses and the ethmoid cells become involved. There is no task more exhaustive or requiring more nerve than that of the surgeon who gouges away necrosed ethmoid cells until he gets within the thickness of a piece of paper of the base of the skull.

A premium for babies has been offered by the mayor of Huddersfield, England, in the shape of a promissory note for one pound, payable a year after birth (if the child lives so long) to be given to the mother of every child born during his year of office. The idea is to prevent the waste of child life by making it worth while for the parents to be careful about their children. This solicitude is quite in keeping with several schemes on this side of the water—insurance in the event of twins, for instance, and the charitable donation of perambulators in order to discourage race suicide.

Hiram Cronk, the sole American survivor of the War of 1812, died at Avon, N. Y., at the age of 105. For nearly forty years past he is reported to have been an inveterate chewer of tobacco and an habitual, though temperate, wine drinker.

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THE SEASON OF OVERDOSAGE.

FROM the highest authority extant we learn that there is "a time for everything." By modern custom now is the usual season of overdosage. The fashion of it swells the heart with desire for the risks—captures the mind with eagerness for the test. The reserves of conscience, if any, have been placated by elastic beliefs that the individual experiment, at least this time again, should venture the expenditures, though involved disabilities will, in many cases, encumber the aftermath of the coveted transports. 'Tis true, the preparatory stage of the disturbing operation will prove rather exacting and exhaustive; but hence all the more evident becomes the pressing need for the recuperative stage presumed to follow drastic drains upon the impressible fund of vitality.

The diversity of domestic inconveniences is skillfully and cheerfully competed against by the anticipative alternatives and welcomed recreations that easily win the contest in view of the alluring "change"—change of customary habit, change of daily diet, the novelty of hired sleeping quarters, the unique panorama of unsorted faces from unwonted places but now flocking together at the ideal Mecca so impressively advertised for presenting, at reasonable financial profits, the approved modish dosages for wearied but ardent seekers for that great summer compound artfully labelled with the simplest sobriquet—REST.

Is there an invoiced formula for whetting contemplation? Its gist is non-technical but comprehensive enough to win the alert bidder for the most available accommodations. The Lord is good always and Providence increasingly profuse in provision to interest the discerning eye and to gratify the questful mind. There are many favored and favorite locations that diversify the open face of Nature—situations where the atmosphere distils the nectar of health; where the real sunshine plenteously smiles; where attracting stars shower their gleams; where gentle Luna invites to joyful love; where earnest candidates for nerve restoratives and mind cures may safely entrench their hopes of happiness for at least temporary lull from carping care; where hungering appetites shall be voluminously furnished with the best products of the land; where a grand sweep of allopathic largeness may be grasped for recuperation of overdrawn waste of energies—less the meddlesome formalities of an obtrusive quarantine of "do's" and "don't's."

The inventoried schedule comprises arduous "lots and cords" of health-winning devotions, incongruously compressed to the fullest limit of endurance. To deflect the shafts of exhausting temperature of hot days and nights there's the popular cooling respite of lawn tennis and golf; the jolly repose of riding and driving; the fine stomach digestive of wave-rocked sailing and fishing; the quiescent ease of crabbing and gunning; the antiseptic soothe of salt sea baths and blistering beach sand packs; the "innocuous desuetude" of batting boss billows and swimming and diving; the becalming ease of wheeling and climbing; the complacent relish of feeding and fanning; the dreamy divergent of dressing and dancing; the sedative nervines of night musicales, of scintillating extravaganzas, ballroom hops and coquetting bouts; the languorous vigilance of ogling and vying; the somnolent calm of promenades and porching; the crowning sleep under the weird hypnotism of drunken mosquitoes and barking watch dogs!

Most physicians will concede that the average program of vacation invigorants is ample for selection by the average toilers and representatives of business and social functions; but the habit of compounding continuous overdosage of pastimes imposes heavy tolls and discounts on the crop of benefits. All are not constituted alike in the power of nerve endurance and vital tenacity. For each and every seeker of change and the respite of rest from routine toil and duty to pliantly presume to emulate the spendthrift dissipations that others may engage in with incessant revel, is to rashly challenge an earlier exhaust of physical capital, and then hopelessly scrape the bare staves of an emptied life.

A varied schedule of open air exercise, whether for work or for play is equally hard, is vitally beneficial if regulated by conservative reason—if gauged to the tenuity of natural strength—if moderated by the exigencies of the present not only, but of the future requirements. And rather probably the future will draft for greater needs than does the present; hence overdosages of excess to-day may figuratively etch to a leaking riddle the physical barriers to vital bankruptcy long before such lamented failure can be afforded in the ordinary span of effectiveness allowed to man. It is seldom that the accustomed routine level of work under fair conditions runs into the morass of premature infirmities; but the superadded strains and dissipations of strength that break instead of repair where repair may be attained by the new-knitting composure of really restful change of scene and improved hygiene. The overstocked stomach, imposed on by miscellaneous grists of strange, perhaps foreign dietary compounds, wearies of the work and presently falters in its digestive energies. Then compensating nutrition falls off. So the overdone recreations jade the nerves and cramp to a literal colic of abused service the opportunities that, if more rationally employed and enjoyed, would have afforded normal and substantial results of profit. The mountains are clambered to satiety. Peaks have been scaled galore and extinct volcanoes stared out of countenance. Harmless game has been ruthlessly murdered by marauding banditti. The speckled streams have been heartlessly haunted by cruel baited hooks. Rowers upon the soft bosom of the waters have pulled their hearts out over the flashing oars in the glare of the smiting sun whose caloric dissolved to salted sweat the nutritive juices of the body. The seashore is shamed by the fanatic revels senselessly exploited on the beach and in the surf because subjected to the incivilities of vacation throngs. Thousands of blue-lipped and shivering frames have fled with the chill of the overdone plunging following to their homes, to there fill within a year satin-lined caskets of silence. Travel may gather instruction and refreshment if not hastened to an Olympian-like race for the sake of "doing" a year's sightseeing in a month of hours, and then back again to posts of duty with the rush of steam. Our travelers for health frequently return to have their obituary recited as introduction to the announcement that they had recently "been abroad."

The unbending vacation rest, considerately intended as a humane blessing, has been distorted into a practical failure for many a young man and young woman, and also for many an older person, who transposed kindly common sense by the "whack" of the pocketbook wherewith they accomplished some surprising stunts at travel, but who thereby laid the train of trailing discomforts. They may have been enabled to regale delighted listeners with narratives of magnificent distances from New Orleans to Quebec, from London to Rome, before the overdosed strain relaxed and the marble yard was interviewed for an appropriate carved memorial. Should not our considerate contemporaries, who have voice in such matters, more cautiously avoid wonted recommendations to debilitated patrons to venture the experiment of a trip to somewhere for a change, unless they also tack to their outing prescription specific instructions as to how to render their proposed recreations certainly safe and curative?

But even the wisdom of doctors may fall in default. That locally prominent busy practitioner, residing in a bustling country borough, recited illustrated history when he said: "I seemed run down. My wife and others insisted that I needed to take a rest. To escape from the calls of my patients, I chartered a first-class berth to cross the Atlantic for a visit to Europe. When I got over there I desired to see so much as a recreation that I kept on going and going till I wore out the soles of my shoes. Then I found I was so completely used up that I was forced to ship again back home to get that rest. It took me nearly a year to recover; but I got cured—of that fabled humbug about vacation travel to find a rest!"

ORGANIZED MEDICAL RESEARCH.

2. THE ACCUMULATION OF MEDICAL STATISTICS.

IN a previous article, we called attention to the importance of cooperation among smaller hospitals, in order to make the most of clinical material. Such cooperation is especially necessary, now that the monopoly of hospital service is pretty thoroughly broken.

We wish now to consider organization of effort in reading and compilation. The amount of medical literature, in books and periodicals, is something appalling. At least a new book a day is produced and about 75 journals a week, in English alone. It is obviously out of the question for any one man to read more than a small portion of this literature and it is, in a sense, fortunate that a good deal of it is not worth reading. Yet it is by no means possible to make a ready classification of worth, by noting the name of the magazine, publishing house or author.

Among the numerous exchanges that we receive, are several journals that have not much more than a local circulation and which are scarcely known by name to the majority of our readers. One of these is published in a small city in the East, another comes from the South, while another hails from the Pacific, and a fourth is published in a prosperous city between these points. So far as the great majority of medical readers are concerned, these journals are graveyards of some of the best literature that is written. The great weeklies review one another pretty thoroughly but they cannot, of course, review the entire medical literature even of this country.

The ordinary review for a general clientele of readers must necessarily be after the pattern of a crazy quilt. If each reviewer is careful, the review is good so far as it goes, but it is neither systematic nor complete. One of the best plans of review is found in one of the four journals mentioned above. Each reviewer accumulates, from the world's literature, two or three or ten or twelve articles on the same general topic. Then he condenses and unites these into a single editorial article, which is usually a masterpiece. On the other hand, one of the prominent weeklies has a machine which translates, condenses, sets type and reads proof by a turn of the crank. That result is that the reader's curiosity is aroused to buy the original magazine and find out what the article was about. Unfortunately, many of the articles are in foreign journals which are practically inaccessible and sometimes the machine does not even give the author's and journal's name and the date, correctly. Other journals credit copious clippings to "Ex." or to a journal without any date or to an author who is mentioned only by his last name, without any address.

Mere indexes of titles are of very little value. If they were, there would be no need to implore the profession to support them as a matter of philanthropy. The essential trouble with such indexes is that very few titles can give an idea of the exact information conveyed. Thus, the index of the Surgeon-General's office, however carefully compiled, cannot be of great service to students even if it were readily accessible without expense to any student who might wish information by mail.

The question box suggests itself as a simple method of obtaining concerted information. But, in medical literature it usually degenerates into questions by incompetent physicians and answers by editors with an interest in proprietary preparations and the result is about as edifying as the column in the "Woman's Workbasket" devoted to Miss Mashmore's Snide Talks with Girls. The writer's experience is that a letter to a medical journal asking for information, rarely elicits answers of value, but that a letter personally addressed to any prominent medical writer will bring forth a courteous, if not always satisfactory, response.

Under existing conditions, the only satisfactory method of acquiring anything like systematic and complete collective information on any point, is to spend one's spare time in reading medical journals—bound books are rarely of much use, except to impart the underlying general knowledge of the subject—to make brief abstracts or to clip out interesting notes of really original work and to file away the notes in properly labeled envelopes. Sometimes, a telephone message or a letter will elicit a clue, more often not. It is gratifying to one's vanity to find that when a man really tries to make an exhaustive investigation of a subject, his friends are as ignorant as himself. It is of very little use to try to hunt down a given problem at once. Try it and see. Can you spare a whole morning, of five hours, and have you a good library available? You will spend at least half an hour in transit. A few minutes more are wasted in getting out the files through which you intend to search, and finding the index numbers. Consulting an index is time-consuming and nerve wearing. You find a surprising dearth of articles on the subject that you seek and it is equally surprising how difficult it is to think of the other ways in which one might head an article on the same subject. Perhaps the information that you want is headed "Report of Case," "Surgical Clinic," "An Interesting Experience," etc. Or it may be in an abstract or review that is not indexed at all. At last you find an article on the very subject and by a leading authority. When you have read it half way through, you find that it is a very excellent review of the text book knowledge that you already had, that there is a lengthy and instructive case report, that you are getting just the kind of general information that every physician needs but that the eminent writer has had no time to study carefully what other men are observing along the same line, much less to compile the kind of statistics that you need. If you have found any real definite information in the whole morning, you have been fortunate and you are very fortunate in one way and unfortunate in another if a whole morning in a library is other than a rare excess of leisure.

On the other hand, the unsystematic but regular method of making notes and clippings which are sorted from time to time, gradually leads to the accumulation of a vast amount of information of a definite character which cannot be found in books. Just what is wanted on Meckel's diverticulum, is found in a clinic on appendicitis. A most excellent condensation of experience with deciduoma malignum, ready for clipping, is found stuck in at the end of an address to a graduating class and is not indexed at all. The editor simply did the work for you, to fill in some unused space and there is nothing on the reverse side but some eloquence, so that you can use your scissors instead of the pen.

But all this is not *organized research,* it is the most laborious, time-consuming, unsystematic individual effort, done over and over again by different workers and incompletely by all. What is needed—and we have no space to discuss whether the fulfillment of such a need is at all feasible—is a corps of expert reviewers, not simply lay index clerks, representing all civilized languages and large enough in numbers to read intelligently every medical journal and new medical book and to abstract it.

This does not mean an impossible task. We are inclined to believe, from actual personal experience, that a dozen men of the right kind could attend to the periodical literature of the United States, the British Empire, and, to some degree, of that of France and Germany. There are nearly two hundred medical journals published in the United States alone; but the majority are of few pages, they appear only monthly and they contain very little of value that has not been pirated from others. Then, from all, can be omitted the news items, most of the editorials, the book reviews, the excerpts and abstracts of articles appearing elsewhere, unless well enough done to warrant use with great saving of time for the reviewers, all rehash articles—which are valuable for their purpose of instructing the profession and in furnishing convenient reviews—nearly all addresses, orations and reminiscences. The remainder, though a hopeless task for any one man, is by no means so for a dozen.

Then would come the classification of the material, by the card and envelope system. Much of the material would have to appear under two or more headings, some under half a dozen. With the gradual accumulation of systematic and definite observations, further condensation would become possible. Tables could be combined and individual sources of statistical error would be neutralized. Complete knowledge is always simpler than incomplete. Whole bundles of notes on the Bacillus X, the Class Bacillus, the classification of malarial fevers, the discussion as to the identity or non-identity of small pox and cow pox, are now worthless, excepting as matters of historic interest. It is possible that pertussis may be shown to be, not a specific disease, but simply an aggravated respiratory catarrh occurring in individuals (children) with small larynxes and special tendencies to spasm. Carefully compiled observations on the rare symptom-complexes which are known by the names of their discoverers or exploiters, would soon determine whether these are really special diseases, whether they are definite anomalous forms of other well determined diseases, or whether they are purely coincidental occurrences of independent affections.

The work of such a bureau as we have imagined, would in a way, tend to lighten its own labor. The accessibility of systematically collected information from all periodicals would tend to discourage the acceptance of incomplete articles and would puncture the balloons that keep many ipse dixit men high above their colleagues. In all probability, there would be a shrinkage in medical literature, and many half scientific magazines would go out of existence or would continue simply as purveyors to those of weak mental digestion.

Such a bureau would be of great practical value as it would allow new text books to be written which could supplant many speculative chapters by cold facts and, with the increasing education of the profession and the more and more rapid dying off of the imperfectly prepared portion, the information obtainable would not only interest a comparatively few students but would influence the control of disease by the profession generally.

The Japanese method of warfare was recently commented upon by Sir Frederick Treves at a dinner of the Japan Society in London. He declared that anybody desirious of seeing the last, the most ingenious and yet the simplest thing in the equipment of war must go to Japan, in which country many of the war problems which still concern European armies, have been, or are being, solved. England goes into a war with the expectation of a 10 per cent. sick rate. The Japanese expect and have but one per cent. Sir Frederick believed, moreover, that Japan will eventually have one of the most remarkable schools of surgery that has ever been known to history. "You will understand why; there is the infinite patience of the people, their infinite tenderness. Kinder, more sympathetic people do not exist. Then comes one very important factor, at least, in the making of a surgeon; they have no nervous system."

INCIPIENT INSANITY.

Dr. J. T. W. Rowe, in an extremely important paper (*N. Y. Med. Jour.*, June 3, '05) urges upon the general practitioner the necessity of diagnosing incipient cases of insanity, to the end, in the first place, that many cases may be cured which would otherwise progress to a degree beyond hope of mental restoration; and, in the second place, that by this means may be relieved, to some extent, at least, the congestion which exists in our dreadfully overcrowded public institutions for the insane. It is the general practitioner, not the alienist, with whom lies the remedy, with regard to both these conditions; and Dr. Rowe rightly emphasizes that the former has oftentimes been shamefully neglectful of the proper medical treatment for mental sufferers prior to their commitment to a hospital for the insane.

The physician will find scores of incipient cases in his daily rounds whose progress he can arrest; it is his duty to minister to a mind diseased at least as much as in any other phase of his professional work. He should have a better knowledge of the nature and phenomena of mental disease than generally obtains.

There are many cases showing toxemia following abeyance of function, the result of too close application and overwork amid unsanitary surroundings; such cases, taken in time, will unquestionably respond well to treatment. There are yearly hundreds of such cases committed to asylums, "a large portion of whom have the conviction that they need never have been certified as lunatics had they received timely medical advice in the stage of incubation, and their functions and physical condition bear them out in their lamentable statement of neglected health." The home, and not the asylum, is the proper place for neurosis or exhausted states due to neglect or lack of medical care; imagine the effect upon the psychism of such cases when placed among pronounced lunatics of dangerous or suicidal or maniacal or like tendencies. The family practitioner sees or should observe departures from health in a hundred forms; it is his opportunity to check untoward symptoms; to give sound advice; to consult with relatives; to treat declining bodily health. In these days of the strenuous life a large number of both old and young are to be found on the verge of physical and mental breakdown. "They dare not give in, for the pace has been set, and they strain every nerve to respond to the demands made. The laborer in his ignorance of the laws of nature, sweats in the darkness. The workers in the factory and the slums; the professional man overconfident in his intellectual powers and well ordered nervous system; the lad at school weighed down by too close application and not enough open air exercise; the shy, retiring boy just yielding to evil inclinations; the worried business man and father bearing a heavy load and seeing no way of lightening it—all these patients are very near the border line of mental affection and this is the very time when proper medical advice could avert disaster." Many such could be taken from their work and sent to the sea or the mountains; they might "do half time"; and the physician could see them every day if need be. The neurasthenic; the alcoholic with his fleeting delusions; the railroad man fearing that his "nerve" is failing him; the mother at the climacteric; the young girl with ungratified longings and hypochondriasis; those whose sleep is broken and who begin to hear voices at night; such phases typify the periods of initation and incubation; "they are the varieties of ailment becoming insanity." They generally require but a few days' rest in bed with a little medical care; an early diagnosis is manifestly essential.

Thirty per cent. of admissions to hospitals for the insane are due to neuroses, drug and drink habits, toxemias of adolescence and states incident to the menopause. The inclination to send to the medical certifiers should be resisted to the last; an asylum is not by any means the only solution of the problem here indicated. Few among these sufferers require such extreme measures as are implied in institutional treatment; sending them abroad if possible, or to the sea or mountains may suffice. Or change to an urban environment may be beneficial for such patients in rural districts. Certificates of insanity are much too easily issued; patients committed are likely to be subjected to suspicion ever after. The knowledge of a former asylum residence militates seriously against a man, for there is always a doubt about his mental restoration. "The pilot experiences difficulty in getting back his old post, the engineer may obtain sympathy, but seldom the charge of his train or yacht, and the business firm is decidedly averse to placing responsibility in the hands of a man with an asylum history." No one appreciates this handicap more than the patient himself; wherefor he does his best to keep the fact of failing strength, either mental or physical, concealed when his daily bread is at stake. Here the family physician may do most effective work, if he have the confidence of such a sick one. Rowe emphasizes that the care of fully established cases of insanity is not here under consideration. Such should go to the alienist and to the asylum. But the physician can prevent oftentimes the full establishment of insanity. He especially "can shed light upon the darkness begotten of ignorance regarding syphilis and its inclusive list of general paralysis, tabes, and all the disastrous consequences to immediate sufferers, including the neuroses of degeneration resulting from it." Rowe completes this vital subject with a condemnation of the absurdly high standards required in the public schools, which are frequently out of all proportion to the mental and physical strength of the pupil. Many a growing and promising lad, whose precocity is mistaken for unusual mental endowments, will win prizes and scholarships at a ruinous price of his psychic and physical stamina; many such cases end in complete wreck and dementia, rendering the subjects fit only for an asylum for the rest of their days.

A DEATH ATTRIBUTED TO ANTITOXIN.

This headline, appearing in a daily paper, moves us to consider with what rarity fatal results have been attributed to the use of this serum. The disease diphtheria is in itself a very grave condition; there is hardly any one more so among those with which the physician has to deal. The remedy, if we are to obviate a high death rate, must be a heroic one. Antitoxin used to be considered such; but in view of the many thousands of lives which have been saved by its use, which must otherwise manifestly have been lost, it should no longer have this reputation. It is indeed to be "classed among the great medical discoveries of the nineteenth century."

On this account we note with pleasure the course of the Health Commissioner of this city in refusing to divulge the name of the physician who injected the antitoxin in this fatal case while in the city's service, until a thorough examination of all the facts had been made; this physician "has a record of five or six years hard work in the department without mishap."

PROF. BURKE'S "RADIOBES."

Prof. Burke, of Cambridge, England, has recently made some experiments which have excited the interests of the scientific world. The excellent reputation which this gentleman enjoys entitles his work to careful consideration; and, by reason of its enormously ambitious scope, it should receive the closest scrutiny and criticism. By placing in a sealed test-tube a piece of radium along with "sterilized" bouillon, states *London News,* Burke has caused minute spherical particles to appear which have some of the characteristics of vital units. They appear under the microscope to have nuclei. They disappear in daylight; but they grow again when placed in the dark. They are neither crystals nor microbes nor infusorians, because *they are soluble in warm water.* (We shall presently note these emphasized words.)

Burke would here seem to have demonstrated the possibility of spontaneous generation, that question which so greatly disturbed both science and theology a generation ago. Possibly, he considers, these globular particles—"radiobes"—are "a primitive form of life." They "suggest vitality," and just as they have been evolved from the bouillon by the fierce radiant energy of radium, so in long ages the feebler radio-activity of the earth may have evolved living particles.

This brings up the old and hoary question, the settlement of which will probably never be within human ken, how life comes to be upon the earth. Liebig and others have thought that life came originally *to the earth* in the crevices of meteorites; that simple organisms might have come to us in these crevices. But our present knowledge of interstellar space shows us that life, as we understand the term, could not come to us in this way. An organism, such as we here assume, might survive the few moments of heat while the meteorite falls through the air, but it would be killed by the cold—hundreds of degrees below our freezing point—during its ages of journeying hither. Equally fatal would be the dryness of interstellar space; no organic compound could survive the desiccation it would have to undergo. Life must then have originated on this cooling earth. How? That is the mystery. Those who seek it in the realm of the unknowable have thus far sought in vain for its solution. The man of faith attributes it reverently to the "breath" of The Master Builder.*

The experiments of Burke have had their congeners in other times. To go back half a century: Pouchet found that organisms appeared in infusions of stewed hay, in which life had been destroyed by prolonged boiling. This happened even in bottles hermetically sealed. But Pasteur showed that the air was full of living germs, and by passing it through a red hot gun barrel so that no germ-laden air could get to the bottles till they were sealed he made hay-stew which kept microbe-free. Even hay-stew thus prepared and left open on the top of the Puy-de-Dôme, the highest mountain in France, kept free from living germs which do not inhabit the tops of high mountains. Bastiat was moved by his experiments to assert roundly that "living matter is constantly being formed de novo in obedience to the same laws and tendencies which determine all the more simply chemical combinations." But Tyndall proved, as did Pasteur, that if the air was pure no life arose; and Dallinger demonstrated that there are germs to which even boiling is only a mild recreation—germs that are all but fireproof.

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* We have touched upon this subject editorially; *The Riddle of the Universe,* April, '05.

To return now to Burke: We would suggest that his bouillon was perhaps not thoroughly sterilized to begin with, however careful his technique. Sterilization is after all but a relative term. The bouillon may have satisfied all hitherto tests as to its sterility; yet there may still have been latent life sufficient to have been stimulated anew by the comparatively little understood force inherent to radium. And is this element conducive to life? Is it not rather destructive, in fact. Physicians who work with radium in practice find it inimical to living tissue rather than constructve or vitalizing. Carried in the pocket it has produced dreadful ulcerations upon the body through the clothing; finger tips have been burned; sexual power has been pronouncedly impaired. Again, the function of reproduction has invariably been manifested by all forms of life, how insignificant soever, that have ever been studied. This appears not to have occurred in Burke's experiment. Its manifestation is essential to the soundness of his position.

Finally we emphasize that these "radiobes" are soluble in water. Life has invariably begun in water, and has been continued in water. A soluble creature plant or animal would be absolutely contrary to human experience; it is not conceivable in the scheme of things.

Wherefore we would conclude from these and many other considerations, that the most that can be claimed for Burke's experiment is that he may have, by means of chemical or physical elements or both, favored the generation of life in matter supposedly sterile.

SYPHILIS A DISEASE OF THE INNOCENT.

Several noted physicians discussed this and kindred subjects in the *Journal of the American Medical Association* (March 4, 1905), and their papers were conceived in a spirit of most laudable altruism. Dr. Bulkley, of New York, declared syphilis to be too invariably considered disreputable. He set forth its prevalence in past times and in certain parts of the world; as also its infection of whole communities, largely through family life. This physician finds that among cases in his private practice one-half are innocently acquired; and in fully eighty-five per cent. of married women among his patients is this the case. No one is certain of not being innocently infected with syphilis. Surely every physician knows among his colleagues one or more who have thus been infected in the course of their work, especially in digital examinations. Bulkley would therefore urge that syphilis be placed among the contagious diseases under the control of health boards. It should be a punishable offense to communicate it knowingly. Thus would a great step be taken towards restraining the disorder and preventing the infection of the innocent.

Dr. Howard Kelly makes a plea for more active personal endeavor on the part of the profession and of the public for good morals. Indifference in this regard, he considers, has resulted in a riot of sin and disease, debauchery of public service and corruption of the whole body politic. The alternative of government control, which some moralists advocate, is a sanctioning of vice and an ignoring of the principles of morality which are the basis of all positive law. Experience does not show that the legalization of vice is any step towards its abolishment; the effect of legislation in the degradation of the medical profession is deplorable. Kelly would institute a moral crusade sustained by an intense sense of personal responsibility in this difficult matter.

While in full agreement with Kelly we are of the opinion that there is hardly anything so difficult to conceive as the success of such a crusade, by reason of the condition of civilization in our day. An infinite amount of cant, and of Pharisaism would have to be set aside; an amount of courage much greater than that displayed by the soldier in battle, would have to be exhibited in the revelation of things which are now hypocritically suppressed; and a sense of charity would have to be manifested such as is certainly not likely to be forthcoming. One fundamental fact would have to be thoroughly understood before anything could be accomplished—that the root of the social evil lies not with the poor, wretched women who are periodically raided in civic communities, but in the hearts and minds of those who evilly use them. The prostitute is not the source of the social evil; she is its product. Nothing will ever be accomplished until the unco guide take to heart and imitate the humanity of Him who would not accuse the adulterous woman. Most of all would the "society" of the present day require to be stigmatized.

Among these papers was that by Dr. Prince A. Morrow on The Prophylaxis of Venereal Diseases. We have already editorially set forth the views of this splendid and lofty minded gentlman (July, 1904); and have here but space to note that the method in which he puts most cônfidence is education, both of youths and of the public generally. The public conscience must be awakened (a mighty task, as we have observed). The present indifference, based on ignorance, and the popular notion that these diseases are simply consequences of vice, must be done away with. A special society consisting of educators, clergymen, jurists and sociologists, as well as medical men and public-spirited individuals generally, should undertake this work. It should be a permanent organization, exerting a continuous active force. Morrow believes that with organized and intelligent effort many of the apparently insurmountable difficulties of this question may eventually be overcome. We hope so; and to hope is perhaps the most precious of all gifts vouchsafed to humankind. Let this give us what comfort it may.

The efficiency of New York Quarantine was attested by a consulting board of eminent physicans, after a careful examination of the station hospitals and laboratory in the lower bay. The especially noteworthy features which these gentlemen pointed out, were the practical recognition of the fact that it is in the infected man and his immediate surroundings that danger lies, and not in the ship or cargo, or its healthy passengers; the systematic use of the thermometer for the detection of early and obscure phases of infection; the application of scientific sanitary measures adapted to each special form of infectious disease; the liberal and humane efforts to ameliorate the hardships of necessary quarantine detention; and, finally, the efforts making in laboratory research and experiment, to add to the knowledge of sanitation. It is a pleasure to emphasize further, that while the country is each year being more effectively protected, there is at the same time a steady reduction of the annoyance to individuals and damage to commerce in which earlier quarantine systems were constantly involved.

BIBLIOGRAPHICAL

A Text-Book on the Practice of Gynecology.—For Practitioners and Students. By W. Easterly Ashton, M.D., LL.D., Fellow of the American Gynecologic Society; Professor of Gynecology in the Medico-Chirurgical College of Philadelphia. Octavo volume of 1079 pages, containing 1046 new and entirely original line drawings. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $6.50 net; half morocco, $7.50 net.

This work is a new departure in medical text-book making. The author takes up each procedure step by step, the student being led from one step to another just as in studying any non-medical subject. Nothing is assumed, the author in every instance not only telling what should be done, but also precisely *how to do it.* All the methods and details of technic described have been thoroughly tested by the author himself, so as to assure their value and accuracy. A very commendable feature is the departure from the old routine method of devoting a general chapter to physical examination. In place of this the author presents the examination of each organ separately before describing its diseases, thus greatly aiding the student in familiarizing himself with the technic. A distinctly original feature consists in the line drawings made especially for this work under the author's personal supervision from actual apparatus, living models, dissections on the cadaver, and from the operative technics of other authors. There are ten hundred and forty-six of these illustrations, showing the procedures and operations without obscuring their purpose by unnecessary anatomic surroundings. Definite and precise instructions are given regarding the preservation of specimens of morbid tissues and secretions, and their delivery in good condition to the pathologist. The fore part of the work, dealing with antiseptic technic, shows great care in its preparation, Dr. Ashton wisely describing only those methods which he employs in his own practice, in order that the reader may have a clear and definite conception of the subject. Very special attention has been given to the consideration of visceral injuries, and we know of no other work on gynecology or general surgery discussing this important subject with the same amount of detail. This is decidedly a work for the general practitioner as well as for the student and it will be found so complete and exhaustive that even the specialist cannot afford to be without it.

Saunder's Pocket Medical Formulary.—By William M. Powell, M.D., author of "Essentials of Diseases of Children"; Member of Philadelphia Pathological Society. Containing 1,831 formulas from the best known authorities. With an appendix containing Posological Table, Formulas and Doses for Hypodermic Medication, Poisons and their Antidotes, Diameters of the Female Pelvis and Fetal Head, Obstetrical Table, Diet list, Materials and Drugs used in Antiseptic Surgery, Treatment of Asphyxia from Drowning, Surgical Remembrancer, Tables of Incompatibles, Eruptive Fevers, etc., etc. Seventh Edition, revised. In flexible morocco, with side index, wallet and flap. $1.75 net. Philadelphia and London: W. B. Saunders & Company, 1905.

When a work has reached its seventh edition there can be no doubt of its practical usefulness. And it is not at all surprising to us that Saunders' Pocket Medical Formulary should have attained such popularity, for we know of no similar work containing so much useful, practical, and accurate information in so small a compass. In this new seventh edition there have been added over 460 new and valuable formulas, selected from the works and private practices of the best authorities. The editor has shown rare discretion in the elimination of many obsolete formulas, inserting in their place newer and better ones, embodying a large number of approved new remedies. In its new edition this Formulary is thoroughly representative of the most recent therapeutic methods, and its convenient size and mechanical get-up make it the most desirable work of its kind on the market.

American Edition of Nothnagel's Practice.—Malaria, Influenza, and Dengue.—By Dr. J. Mannaberg, of Vienna, and Dr. O. Leichtenstern, of Cologne. Entire volume edited, with additions, by Ronald Ross, F. R. C. S., F. R. S., Professor of Tropical Medicine, University of Liverpool; J. W. W. Stephens, M.D., D. H. P., Walter Myers Lecturer in Tropical Medicine, University of Liverpool; and Albert S. Grünbaum, F. R. C. P., Professor of Experimental Medicine, University of Liverpool. Octavo volume of 769 pages, fully illustrated, including eight full-page plates. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $5.00 net; half morocco, $6.00 net.

This new volume in Saunders' American Edition of Nothnagel's Practice represents the latest word on the subjects of which it treats. And more than that: It is the undisputed authority on these subjects. For this American edition Dr. Ross has made many additions to the article on Malaria, so many discoveries having been made since the appearance of the original article. The articles on the Mosquito and its various relations to Malaria come from the authoritative pen of Dr. J. W. W. Stephens, of Liverpool. The Influenza and Dengue sections are equally well written. The untiring labor of the editors in preparing this work for the English reader is evidenced on almost every page by the lengthy and valuable editorial interpolations. This is the tenth volune in the series, and the eleventh one (that dealing with Diseases of the Kidneys and Spleen and with Hemorrhagic Diseases) is promised very soon. When the series is completed it will be a standard practice of medicine, second to none, and worthy a place in every medical library.

Atlas and Text-Book of Topographic and Applied Anatomy.—By Prof. Dr. O. Schultze, of Würzburg. Edited, with additions, by George D. Stewart, M.D., Professor of Anatomy and Clinical Surgery, University and Bellevue Hospital Medical College, New York. Large quarto volume of 187 pages, containing 25 figures on 22 colored lithographic plates, and 89 text-cuts, 60 in colors. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $5.50 net.

In the preparation of this book the author had in mind the need of a work that would combine the features of a text-book with the educational advantages of an atlas. He has produced a work of great merit, and not alone the anatomist but more particularly the general practitioner will find it of constant value. Professor Schultze has presented his own methods for the study of anatomy —methods proved to be correct and practical by many years of clinical study. Throughout the work the value of the knowledge of topographic anatomy in bedside diagnosis is emphasized. The many colored lithographic plates and the numerous text-cuts, sixty of which are in colors, are of exceptional excellence. Indeed, both for accurateness of detail and artistic beauty we have never seen their superior. The greater portion of the dissections from which these illustrations have been made are from the author's own preparations. The Editor has added many valuable notes.

Findley's Gynecological Diagnosis.—A Treatise on the Diagnosis of Diseases of Women. For Students and Practitioners. By Palmer Findley, B.S., M.D., Assistant Professor of Obstetrics and Gynecology, Rush Medical College in affiliation with the University of Chicago; Assistant Attending Gynecologist to the Presbyterian Hospital, Chicago. In one octavo volume of 588 pages, illustrated with 222 engravings in the text and 59 plates in colors and monochrome. Cloth, $4.75 net; leather, $5.75 net. Philadelphia and New York: Lea Brothers & Co., Publishers, 1905.

The first edition of this most practical treatise having been promptly exhausted, the author has utilized the opportunity to bring this work to date, by adding one hundred pages of text, twelve engravings and fourteen colored plates. The book is one of the best in all respects for the student, as well as the general practitioner, the text being clearly and concisely expressed, and the fine illustrations most helpful. We have no hesitation in commending the work to our readers.

A Treatise on Fractures and Dislocations.—For Students and Practitioners. By Lewis A. Stimson, B.A., M.D., LL.D., Professor of Surgery in Cornell University Medical College, New York; Surgeon to the New York and Hudson Street Hospitals, etc. New (4th) edition, thoroughly revised. Octavo, 844 pages, 331 engravings and 46 full-page plates. Cloth, $5.00 net; leather, $6.00 net; half morocco, $6.50 net. Philadelphia and New York: Lea Brothers & Co., Publishers, 1905.

So much has happened in the five years since the last edition of this book was published, that many interesting details, some of much practical importance, have been added to the present edition, so that we have at command a leading authority upon the subjects of diagnosis and treatment in their latest development. The X-ray work and the reduction of old dislocations are subjects that have received special attention. The author has endeavored to adapt his work specifically to the needs of the practitioner.

Homeopathic Therapeutics of the Ear.—By Charles C. Boyle, M.D., O. et A. Chir. Surgeon to the New York Ophthalmic Hospital, etc. New York: A. L. Chatterton & Co., 1905, pp. 113, 12mo. Price, $1.00.

The first part of this little book is devoted to the arrangement of symptoms, under the different remedies, the second part is a repertorial index of the symptoms contained in this book only Those who use symptomatology in prescribing, will find it a useful aid.

Progressive Medicine.—A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., assisted by H. R. M. Landis, M.D. Vol. II, June, 1905. Philadelphia and New York: Lea Brothers & Co., 1905.

This volume contains the following subjects—Hernia, Surgery of the Abdomen, Gynecology, Diseases of the Blood, Diathetic and Metabolic Diseases, Diseases of the Spleen, Thyroid Gland and Lymphatic System, Ophthalmology. The articles are ably written by experts in the various themes, and cannot fail to be of interest to the general practitioner.

How Should We Breathe?—A Physiological Study. By G. H. Patchen, M.D., Medical Director of The Improved Movement Cure Institute, New York. Pp. 47, price 25c. Published by The Improved Movement Cure Institute, New York.

A popular exposition of the mechanism, object and effects of respiration. It clearly demonstrates that there exist other uses for respiration besides that of supplying air to the lungs. This is a suitable little book to prescribe to patients.

A Manual of Acute Poisoning, giving classification, varieties and individual substances usually met with in emergency poisoning with special symptoms, simple tests, chemical antidotes, physiologic antagonists and treatment, together with methods for use in first aid to the injured. By John W. Wainwright, M.D., Member of the American Chemical Society, etc. New York: E. R. Pelton, 1905. 12mo, pp. 96.

This is an authoritative manual of convenient size and easy reference.

A Manual of Midwifery for Students and Practitioners.—By Henry Jellett, B.A., M.D., Dublin F. R. C. P. I., L. M. Gynecologist and Obstetric Physician to Dr. Steevens' Hospital, Dublin; Extern Examiner in Midwifery, Royal University of Ireland, etc., etc. Octavo pp. 1,158. Price $5.50. With nine plates and four hundred and sixty-seven illustrations in the text. New York: William Wood & Company, 1905.

This volume contains a really comprehensive account of the theory and practice of modern obstetrics. Notwithstanding the large number of pages, the book is not bulky, on account of the thinness of the paper used, and it will be observed that the price at which it is afforded is most reasonable. In this work, the author has had able assistance in special subjects, and it is well illustrated, mostly original. The last eighteen pages are devoted to the infant. The text is classically written, excellently arranged for practical purposes, and we expect it will become a popular text-book for college work, as well as a useful hand-book for the busy general practitioner.

Homeopathy Explained.—By John Henry Clarke, M.D. London: Homeopathic Publishing Company, 1905. 12mo, pp. 212.

The author says that the object of his work is to make the understanding of homeopathy possible to all who wish to understand it, and he claims it is not an easy matter. It is the best exposition of the subject we have seen, from the pure Hahnemannian view-point.

The Crux of Pastoral Medicine: The Perils of Embryonic Man; Abortion, Craniotomy and the Cesarean Section; Myoma and the Porro Section.—By Rev. Andrew Klarmann. 164 pp., 12mo, cloth. Price $1.00 net. New York and Cincinnati, O.: Fr. Pustet & Co.

This book takes for its subject, to the exclusion of all others, those questions of medicine and theology of which both priest and physician must be accurately informed, so as to avoid collision with the natural and the positive law in the exercise of their respective vocations.

The limitation of the subjects treated to those which interest priest and physician on common ground, brings the book down to a handy little volume, to which one may refer at a moment.

Treatise on Orthopedic Surgery.—By Edward H. Bradford, M.D., Surgeon to the Boston Children's Hospital; Consulting Surgeon to the Boston City Hospital; Professor of Orthopedic Surgery, Harvard Medical School; and Robert W. Lovett, M.D., Surgeon to the Infants' Hospital and to the Peabody Home for Crippled Children; Assistant Surgeon to the Boston Children's Hospital; Assistant in Orthopedic Surgery, Harvard Medical School. New York: William Wood & Company. Octavo, 675 pp. exquisitely illustrated by 592 engravings. Price, muslin, $5.00 net; sheep, $5.75 net.

In preparing the third edition of this work it has been necessary to rewrite entirely several portions, to make extensive alterations in others, and to rearrange chapters and subjects.

The most marked changes appear in the chapters treating of congenital dislocation of the hip, of scoliosis, of traumatic and non-traumatic coxa vara, and of non-tuberculous diseases of the joints. Many original illustrations have been added and many of the old ones have been improved.

A chapter on technique has been added.

It is believed that the series of illustration in this book is unequalled in orthopedic literature, no labor or expense having been spared to render it of the greatest efficiency.

Atonia Gastrica.—By Achilles Rose, M.D. New York: Funk & Wagnalls Company. 12mo, cloth, $1.00

Under this title the distinguished author of this little work has elaborated the subject of abdominal relaxation and ptosis of viscera, in a most satisfactory manner. The relation of some ailments to abdominal relaxation has only been recognized since the author's method of abdominal strapping has been adopted and extensively practiced. This book gives in attractive form all that is known in regard to etiology; it describes and treats on the significance of the plaster strapping as a most rational therapeutic measure. The illustrations will prove of much practical value to those who wish to give the method a trial, but who have not had the opportunity to see the "Rose" belt applied.

Antidote to Snake Venom.—Some forty years ago Fayrer, having discovered that cobra venom, which had been treated with potassium permanganate was harmless (*Collier's Weekly*), attempted to ward off the effects of the bites of venomous snakes by subcutaneous injection of this chemical, but without success. Lately, Sir Lauder Brunton has devised an inexpensive instrument which may be readily carried in one's pocket, and which has none of the disadvantages of the hypodermatic syringe. This instrument consists of a small sharp-pointed blade set in a hollow wooden handle and provided with a wooden cap. In the hollow handle is placed a small quantity of permanganate crystals and the cavity is closed with the wooden cap. A loose band is tied around the limb between the wound and the trunk, a stick is inserted and the ligature made tight. The region of the bite is then cut open with the knife blade and the crystals rubbed in. The permanganate destroys the toxicity not only of cobra venom, but also that of the rattlesnake, the colubrine, two of the true vipers and one of the poisonous water-snakes of India; the assumption seems warranted that this substance destroys the poisonous properties of all snake venoms.

CORRESPONDENCE

MEDICAL THOUGHTS AND APHORISMS.

To the Editor of the Medical Times:

A contributor to Medical Journalism suggests the best use to which quack advertisements should be applied is that for the reception of the sputa of Hospital or other consumptives. Such is indeed commendable unless we adopt two other means for the destruction of such pernicious and misleading literature, e. g.: either by *fire,* or by *returning* the *stuff* to the senders. If such be not adopted would it not be wisdom to make use of the blank portions of the descriptions and testimonials (such as I am doing) for articles to our favorite journals, in order that good may come out of evil? The prospectus papers of the "Lost Heir," "Gold Crown" and other Mining and Milling Companies, as well as the papers by collection agencies could thus be advantageously used—(if not *burned* or *returned*). Such suggestions we offer to the faithful men in our ranks who notice with sorrow the rapid and ceaseless invasion of our profession's enemies.

In consideration of the absence of organization and Tariffs of Fees, country doctors, more especially, are making examinations for Lodge Insurance for fees (grudgingly given by applicants) which are, as a rule, one-fifth less than Life Insurance Companies willingly allow. That Insurance Companies are not unmindful of our cheap work, I have noticed recently that many such companies are reducing their payments—yet many old and rich companies believe the workman is worthy of his hire—hence the $5—or better, $10. (For a private letter in reference to an applicant I received recently ten dollars from an old-line company.)

There are many hearts that have ached, and plenty that are aching, and will ache for the word that might have, in fact, should have been spoken—such as would cheer or console:—point to the right way, and show errors often made, and the means best adapted to shun them. Many lives are financially and otherwise lost, especially in Medicine, from the imperfect training in the principles of Medical Ethics to the young M.D. I am led to believe that from the members of the learned professions (Divinity, Law and Medicine) no one starts his career with less ethical knowledge than does the young doctor.

The many virtues of the country doctor have often been "nourished in story and cradled in song."—*Whitcomb Riley, Kipling, Stevenson* and others equally distinguished have put wreaths around *Medicine,* yet, when seen, he presents more virtues even than are or can easily be portrayed—provided he has resided continuously in one village, say for twenty or more years—and observant as he always is. That of three assembled doctors two are atheists is an old saying and yet if you would but listen to his many stories, and hear him recount the many instances of ingratitude of old patients, even abuse for countless favors, even deeds of self-abnegation, you will see that he is, above all men in nobility—even as a god among men—certainly now, as in Homer's time, worth many men, yet patiently and stoically he forgets ingratitude whenever duty calls and censure threatened. The preacher is superannuated but the doctor is superannuated *only* when death calls him.

Osler has stated of the learned professions, the clergy are the best educated. No doubt he had in view his father's scholarship as an Anglican Clergyman. That the clergy of the Anglican, Roman Catholic and Presbyterian Churches (and many, too, of the Methodist and other churches) are as a rule better scholars as a body than an equal number of doctors carelessly selected, no one will doubt, but I do think, in this Province, the M.D.'s are superior in general scholarship to, certainly the equals of, any well selected and equivalent numbers of "Leaders of faithul souls and guides of those who travel to the skies." I, too, believe that outside of pulpit work the ordinary Canadian or American doctor is more of a power for general good, and educational and moral interests than the ordinary clergyman.

The further removal from the Council of Trent, says Osler, do we find ministers hugging quacks, superstition, and thaumaturgy. Dr. O. W. Holmes said old women and the clergy were the props of patent medicines. Such no one will deny and the Pharmaceutical Co. that sends free samples and sample pocket cases to preachers knows human nature and that under that clerical vest beats a heart as full of credulity as of blood, and that the owner of that heart never pays the doctor if he can avoid it. He generally abuses the doctor by interfering with his patients and endeavors to illustrate among his *sheep* a knowledge of medicine equal to, if not superior to that possessed by the doctor.

The Medical Missionary, no doubt, in India and other countries similarly in religious darkness, is doing noble Christian work, which we all admit deserves every support, but the *preacher doctor,* more or less a rarity of the present day, is one no respectable M.D. or observant citizen considers worthy of an honest recognition, even, strange to state his co-religionists would starve him out, and even prefer the blasphemer, the drunkard, as their medical adviser. Consistency in works and in daily life is so absent among professors in the church that one may say: In the world's great field of battle, in the bivouac of life, the average Christian soldier is represented *by his wife*"—in doctor's families, assuredly.

When, at the close of this century, a Dr. Shelton Mackenzie shall write its *Popular Delusions,* will it not be a sad reflection on this, what we so honorably term, honored Medical period, when such mad-cap delusions as Christian Science, vitopathy, osteopathy and others equally as maniacal, are being scanned by the historical reader. The question arises have we enough asylums for such will-o'-the-wisp hunters and their victims, for although man "a thinking being was designed, few use the great prerogatives of mind." "How many never think—who think they do?"

The John we know is a very different person from the *John* his Maker knows, and even the *John* as is known to himself, such is, in effect, an *Oslerism,* although *verba ipsissima* are not used, yet sufficiently elucidative of his aphorism and I may state of our Triune composition, and is applicable to all men, not excluding the Holy Willies, so attentive to Kirk and Mart, and hence the difficulty that we physicians meet in reading each character where *facies tres pincta in uno sunt.* Even that of a God—yet of this earth, diabolical.

Every year many young Canadian doctors, thoroughly educated, have self-expatriated themselves, and their MECCA has been the United States and it is useless to discuss the absorption of either country to itself, for we are one in sentiment and in literature. Although we have given to John Hopkins an Osler, that our Dr. Barker is to take his place is a reminder of what *our* Universities are doing and the honor that awaits those who have the soul within, and the God-overhead virtues.

As an examiner in Medicine for our College of Physicians and Surgeons of this Province (Ontario), I know full well that its exactions are the equals for the Licentiateship as those demanded by England, Scotland and Ireland. One fact is this: we have no joint stock medical colleges.

Such are thoughts of events and conditions which thoughts but briefly view,—which, too, came as the rustle of the leaves of the *"old apple tree"* under whose loaded branches, in rural simplicity, these paragraphs and aphorisms are thrown together with as much want of order as is noticeable in the ideal "tailor's drawer" described by Longfellow. Yet, if the reading afford to a brother the pleasure given me in the writing such will be all that is demanded, for opportunities and pleasures are fleeting and when I reflect that for nearly thirty-six years such writings as these have regularly afforded me pleasure and diversion with hopes of entertainment—yet

> "I scarce can think those days are fled
> And yet, like dreams they are no more."

JAMES S. SPRAGUE, M.D.

Stirling, Ont., July, 1905.

A canal and not a pest path is what is urged by the Baltimore *News* concerning the work at Panama. It would seem, without regard to the political aspects of the situation, that "sanitation should precede shoveling" on the isthmus. "What of those young fellows with red blood in their veins who, seeking work with opportunity, are sweltering in the silt? It's a job for the health officer first, and then the engineer." To this end Dr. Gorgas, who has served our country so effectively in similar fields, should be given much wider latitude than he at present seems to enjoy. The *Evening Post* recently reported the arrival of three yellow fever suspects on one steamer in New York Harbor; these had all come from the Panama Canal Zone. Miss Robinson, a nurse among the passengers, "was very glad to get back" after a year spent on the Isthmus. The supply of nurses is falling off; none of those who are leaving Panama will return; the pay is, under the circumstances, very insufficient; and "the conditions are becoming worse all the time." Another passenger reports that prevalent diseases are black measles, smallpox, yellow fever, Chagres fever and malaria, with one case of bubonic plague. The "Dead Train" runs from Colon to Monkey Hill Cemetery, a mile and a half away, as often as fourteen times a day. "There is so much yellow fever about that they keep ten graves always ready for cases of emergency."

A vegetarian diet as a cure for drunkards has been vaunted in London, states the *Daily Mail.* Vegetable soup formed the thin end of the wedge in some experiments made by the Salvation Army; and the complete change was made in four months. Numbers of "lazy, vicious, bloated, gluttonous women" were taken in hand; but after they had started a vegetarian life there was less temper displayed and they were easier to please. Cure was achieved within from ten days to a fortnight.

RETROSPECTIVE THERAPEUTICS

The Management of Typhoid.—W. C. Register, an experienced practitioner, sets forth a number of valuable personal views. We have as yet no reliable specific; in other respects, however, our methods of treatment are now rational and scientific. Carefully selected and detailed directions are essential; and they must be properly carried into effect. The patient should be put to bed immediately typhoid is suspected. They should thereafter not be removed, if possible; this procedure increases the mortality rate markedly. However, if early in the disease it be found that the environment and other factors are unfavorable, a change may be made. Register does not always advise the use of the bedpan; its use will not always cause less physical exertion, less effort and less expulsive force and straining, than if the patient is carefully taken up in a semi-recumbent position. However, if there be marked diarrhea with inanition and a tendency to hemorrhage the use of the bedpan should be encouraged. There should be a competent trained nurse, preferably a stranger; relatives and friends are not good attendants. The patient will be fretted if he thinks himself neglected or improperly attended. The room should be quiet, sunny and well ventilated. If possible there should be an alternative bed; one for the day, the other for the night. This detail is important, the patient is greatly refreshed by the change. From 68 to 75° should be the range of temperature, the latter in the winter. Draughts must be avoided, especially if the patient is awake and has no fever; this is important in the later stages. A light room is not always the best; often a bright light causes headache, nervousness and possibly delirium, when a comparatively dark room will be more agreeable, and will induce sleep. A patient's wishes should be considered, and should be granted when possible. This is particularly so of the bed, which may be "too hard," or "too soft" or "in ridges." The prevention of petty annoyances often saves the patient a great deal of mental and physical stress. The position in bed should be changed from time to time; to avoid pulmonary hypostasis. Anticipate bed sores in the third week. Keep the mouth, teeth and nose as clean as possible, using listerine and water; one may thus eliminate much autoinfection. There should be no visitors, who, usually untactful, leave often in their wake a quickened pulse, a rise of temperature, a wakeful night—the result of long conversations. The mind of the typhoid patient should be at rest; he should not be permitted to think; or to be read to. A case that can be fed intelligently indicates a good prognosis; most cases are either underfed or overfed or improperly fed. Until a week after the temperature is normal fluid diet is indicated; every three hours while the patient is awake. Sleep should not be disturbed for nourishment unless it is much prolonged. It is a good indication when a patient sleeps well; the reverse is the case when fever produces insomnia. Milk is the best food. Register prefers sour milk or buttermilk, producing as it does less nausea and less evidences of indigestion, such as tympanitis or diarrhea. Lithia water may be added to milk—half a glass every three hours. Sweet milk should be taken very slowly, with a spoon, to prevent curdling in the stomach. The milk diet will not suit every case; soups, broths and beef extracts are then indicated. Register has abandoned the use of whiskey and of egg nogs. It is better to underfeed than the reverse; a half glass of nourishment too much may cause a disorder which will take days to correct.

Water should be given freely; it is the best of eliminants. There should always be a glass of iced water by the bedside to be drunk ad libitum—up to twenty glasses in the twenty-four hours. Lemonade, without sugar, is indicated several times a day. Alcohol has a very limited use in typhoid. It is not a very valuable heart stimulant; it is of little value as a food; it may quiet the nervous system, but generally its action, in this regard is the reverse. It is indicated, if it induces sleep and quiet and a moist tongue. In severe hemorrhages or perforation or wherever there is sudden depression alcohol may be given to advantage. Patients who are beyond forty-five, and those habituated to it, should have more whiskey than younger subjects; its combination with strychnine is valuable in people past middle life. Cold water is the best means of reducing fever; cold packs and cold spongings are sufficient for 95° of the cases, the tub being rarely needed. The cold pack Register uses in about thirty per cent. Ice bags may be used to the head and abdomen; but the nurse must remove them when the patient drops off to sleep, to obviate the induction of a subnormal temperature.

Of drugs Register gives quinine in large doses in the beginning of all fevers until the morning temperature, at least, is normal. If fever continues thus five or six days the case is one of typhoid unless there is some other easily recognized local condition. In his cases the coal-tar products are not given. The antiseptic treatment does not cut short the duration of typhoid; neither does it abort or cure the disease, but it relieves or modifies very important pathologic conditions. Salol is preferred, a drachm or more in twenty-fours. Calomel, enough to bring about decided physiological effect, is given to begin with; it is not used after the first few days. For constipation Register prefers enemata. Retained urine contains many typhoid bacilli which are often reabsorbed; salol in the above dosage will lessen the number of these bacilli in the urine and their tendency to autointoxication.

Register is prejudiced against "alimentary elimination" in typhoid; in fact, active purgation during the second and third weeks is very commonly the cause of mischief. Headaches will commonly be relieved by ice bags and sometimes hot applications to the head. Insomnia is a serious symptom. However, the author seldom uses a hypnotic. Possibly the bromides are the most satisfactory sedative. Whiskey, Dover's powder, hyoscine, hot sponge baths may be effective. For vomiting a teaspoonful of lime water, cracked ice and a drop of carbolic acid together may be effective, with a mustard plaster on the abdomen and a temporary suspension of diet; a hypodermic of morphine may be needed. Champagne with cracked ice or cocaine and bismuth may be tried. Tympanites due to fermentation may easily be remedied; that due to paresis is not amenable and indicates a serious condition. In the latter case turpentine and large doses of strychnine are the only means to be employed. A persistent and uncontrollable diarrhea is alarming; on the other hand Register has "yet to see a case of typhoid fever die that was constipated." Bismuth and opium combined with salol is indicated for diarrhea. He encourages the bowels to act every four or five days from the beginning of the second week, generally by means of water enemas, with a little glycerin or turpentine. One-half the author's fatal cases have died from hemorrhage. Opiates, absolute quiet, an ice bag to the bowels and almost a suspension of food for a day or two are indicated. Medicines must here be given in liquid forms, pills and capsules are not dissolved. Ergot and astringents per os are useless. Whiskey is essential where there is collapse. When the temperature is normal for a week a cracker is given in half a glass of milk every three hours. On the fourth day a soft boiled egg accompanies the crackers and milk. Thus is the diet carefully regulated, other things being added.

The Queer Things We Eat are considered by the *Lancet,* which joins in the complaint against the monotonous English round of mutton and beef. However, there is poorer food than this, as for instance, earth which has been eaten in many countries during famine. The Laplanders mix earth with their bread; the Russian peasant uses a "rock flour," and the poorer classes in Hungary are driven sometimes to eat an earth which contains but a trifling proportion of nutriment. Seaweeds are used for food; many are really edible and nourishing. Among these the best example is laver, a kind of stew made from the *porpyhra lacimata.* This is made on the Devonshire coast and is much appreciated in some London shops. The sea algæ contain much nitrogenous matter and being tender are quite digestible. There are also several sea mosses which are esteemed for their esculent properties. Agar-agar is a seaweed which besides being useful in the laboratory for the nourishment of germ life, yields a nutrient jelly pleasing to some human palates. It is supposed that the edible birds' nest so highly esteemed when prepared in the form of soup by the Chinese has its origin in the birds feeding upon agar-agar.

The turtle is an odd article of food, being perhaps the only edible reptile. Frogs' legs are rarely eaten (at least by Anglo-Saxons) although they are easily digested, have a delicate flavor and have about the same nutritive value as chicken. The snail is highly esteemed in France where it is called "the poor man's oyster." The edible snail is, however, a particular kind and is generally collected from the vineyards in the south of France. In Spain the snail is served in a most excellent and appetizing manner and in Paris a dish of selected snails is reserved for the special use of the government

Coal would appear to be a strange article of food, but children and cats have been known to consume it in not negligible quantities. There is no evidence, however, although coal contains much carbon—one of the most important elements of food—that in this form it is in the least degree assimilated.

The psychic factors concerned in healing disease are emphasized by E. C. Savidge (*Med. Rec.,* March 18, '05). The personality of the physician has here an important place, "so that one man's digitalis and calomel may be better than another's." Enhancing the alertness of the nervous system increases vitality. Change is the basis of consciousness and consciousness increases vitality. On the other hand monotony tends to lessen vitality. The great laws of the nervous system are: that of novelty, of monotony, of peripheral change, of central stability. Surface impressions release tension on deep centres; they should be changed with reasonable frequency. Freshness, vividness, youth, effective longevity here interest us. A man is old as soon as he ceases to do new things, to diminish his mobility. The term synthetic medicine is applied by Savidge to the study of vital conditions tending to prolong individual life. He applies these principles to a case of supreme nerve prostration in which drugs have failed as follows: Separate the patient from the scene of his troubles as far as possible—new temporary sleeping or business quarters. Restrict all discussion of troubles to the morning hours; do not refer to them in the evening. "Occupy him with his periphery"—Turkish bath, massage, shave, hair-cut, changes of clothing, etc. Interpose some one between him and persons with whom there may be friction. Suggest gentle exercises, sports and games for his atrophied auxiliary faculties. Apply the power of the law of central stability.

Blood Pressure in Man is the subject of an important lecture which was delivered by Dr. Allbutt and his colleague, Dr. Dixon (*Lancet,* February 11, '05). With regard to the physiology of the subject it was pointed out that as fluids are incompressible elasticity is obtained by the structure of the arteries and that the aorta, being larger in proportion than other arteries, acts the part of a reservoir, as does the air bag of the bagpipes, to relieve the pressures. The construction of the arterial trees is such as to facilitate the distribution of the blood with the least disturbance of pressures. Nevertheless the variations of pressure in man are large, as shown by the effects of muscular exertion, cold baths and the like, and in this respect differ from temperature stability. Only a small fraction of the heart's energy is employed upon the velocity of the blood, the chief expenditure being in overcoming friction, which latter depends upon two factors:—the dimensions of the vessels and the viscosity of the blood (which is about four times that of water). A rabbit's heart was exhibited under artificial circulation, attached to a lever and registering its curves upon a smoked glass. To this heart adenalin, atropin, pilocarpine, nicotine and other drugs were applied, by which the pressures were modified. The pathological applications of these principles in shock and collapse, under chloroform, hydrocyanic acid poisoning, the effects of the nitrites, and so forth, were dwelt upon. The remarkable observations of Kocher and Cushing on the enormous increase of pressures set up during compression of the brain in order to counteract the emptying of the medullary vessels by the intracranial pressure, and thus the danger of bleeding in apoplexy were exhibited by diagrams. The importance of integrity of the arterial mechanism was insisted upon as also the effects of toxic matters, of hard labor and of senile changes. The tendency in many persons to rises of arterial pressure in middle life was shown, as well as the injury thus done to the vessels. As these rises, if taken in time, may be counteracted all persons between forty-five and fifty-five years of age should have their physicians estimate their arterial pressures in order that this peril to health and life may be averted. Such rises may occur also in old persons in whom the arteries have undergone senile degeneration and in them are the more perilous, but in most cases, upon timely discovery, they can be readily counteracted.

Disinfection and Disinfectants.—The report of the committee of the American Public Health Association (*Boston Med. and Surg. Jour.*) reviewed all the more important literature pertaining to this subject. Experiments have shown that the disinfection of passenger cars at least by the vapor of formalin was practically impossible; still this was thought the best procedure at present. 1,000 c.c. of the liquid formalin should be used to each car. With regard to chemical methods of sterilizing water the use of tablets—one and one-half grain, bleaching powder, and one-half grain sodium bicarbonate is recommended.

These will sterilize a pint of water in from five to ten minutes. A tablet of sodium phosphates is then added to remove the taste of chlorin. The foulest river water, it is claimed, can thus be made safe and palatable. Infectious diseases are often spread by means of library and school books. There should therefore be notices in libraries calling attention to the advisability of handling books with clean hands, of not touching the hands to the mouth after handling books until the hands are washed, and in addition, submitting books much used to the action of formaldehyde vapor from time to time. The floors of schoolrooms should be washed from time to time with solutions of formaldehyde so weak as to give no disagreeable odor; infections and colds seem much less frequent among children when this is done. The occasional use of this chemical on floors and surfaces in dwelling houses as well as in public buildings would do much in the preservation of health.

Heart Complications in Diphtheria are considered by White and Smith (*Boston Med. and Surg. Jour.*) upon a basis of 946 cases seen during one year in Hospital. They found heart murmurs and irregular pulse frequent; and conclude that the prognosis depends upon the rate and degree of irregularity of the pulse and the presence of the graver signs of cardiac disturbance. Moderate disturbance is very common. Severe cardiac complications are infrequent. Frequent examinations are necessary because of the rapid changes in rhythm from one hour to the next. Gallop rhythm, late vomiting and epigastric pain and tenderness are important as danger signals of severe heart complications; late vomiting and gallop rhythm present a hopeless outlook. Early use of antitoxin prevents the appearance of grave heart complications. These latter occur frequently during the second and third week of the illness. Bronchopneumonia exceeds heart affections in frequency as a fatal complication. Prolonged rest in bed is necessary in all severe cases. One should be governed by the stage of illness and the patient's general condition. If no serious heart lesions have developed within four weeks there is little danger from this source. Murmurs and irregularity are of long duration and require careful watching long after convalescence.

Surgical Hints of much value are set forth by the *International Journal of Surgery*. In children, steady complaints of pain about the head, the limbs or any part of the trunk, without visible signs of inflammation, should require a careful examination of the spine. A diagnosis of rheumatism is often groundlessly made in such cases. Headache may mean cervical trouble among the first vertebrae; pain in the shoulders or upper chest may be due to lesion further down; caries of the lowest cervical vertebrae may cause pain referred down the lower limbs. Dorsal caries may produce stomach ache or sensitiveness of skin over the ilium.

If the scalpel used to incise the skin is discarded and a fresh knife employed to continue an operation, the chances of carrying skin organisms into the wound are thus much diminished. This refinement of asepsis is quite worth while in such operations, for instance, as involve the invasion of a clean knee-joint. Chronic bone abscesses that have resisted many operations may be definitely closed by von Mosetig's method. A constrictor is applied. Under strict antisepsis the serum and all diseased bone are thoroughly removed; then (with fresh instruments) more bone is chiseled away until an entirely healthy surface is exposed. The cavity is thoroughly cleansed and washed with formalin solution (one per cent.), then dried with swabs and hot air, and filled with this mixture, sterilized and melted: iodoform, 60, and spermaceti and oleum sesami each 40. The periosteum and skin are sutured without drainage.

The Biological Theory of Sleep is held by *Claparède* (*La Presse Medicale*) to be that this is a positive function, an instinct which has for its purpose arrest of functioning. This is contrary to the usually accepted opinion that sleep is the consequence of an arrest of functioning by intoxication and by asphyxia. It is not because we are intoxicated or exhausted that we sleep, but we sleep in order to avoid these conditions. The fact that sleep is not proportional to exhaustion would argue in favor of Claparède's theory. Sleep may be partial. One sleeps through certain noises but not through others. Moreover, the curve of the profoundness of sleep, inexplicable by the toxic theory, is in harmony with the theory that regards this phenomenon as a positive nervous function. "The instinct, the reflex is provoked by numerous excitants:" endogenous, as the condition of the blood, the sensation of fatigue; and exogenous, as the images emperically associated with the idea of sleep. Sleep is in itself a reaction produced by these excitements, and is an inhibition which manifests itself subjectively by a lack of interest in exterior things.

The sewing machine's effect on health has been studied by Nussbaum (*Wienerklinische Rundschau*) who finds that the position at the machine and the constant use of the legs are liable to cause congestion in the female genitalia and consequent inflammation. The menses are frequently very irregular and abortions, inflammation of the adnexa and other affections of this nature are unusually prevalent among these working women. They should take especial pains to sit erect and breathe deep; frequently rising from their work, practicing respiratory exercises and getting outdoors as frequently as possible. Good ventilation and illumination are essential.

Albuminuria of puberty is by no means rare. *Lommel* (*Deut. Arch. f. Klin. Med.*) had the opportunity to make frequent examinations of 500 young factory employees, of whom nineteen per cent. revealed albuminous urine. In most cases only traces could be discovered —generally as globulin, as in acute nephritis, indicating the presence of wide meshes in the filtering apparatus of the kidney. The cause in these adolescents was to be found in an impoverished condition of the blood, together with a mild degree of cardiac insufficiency and tendency to stasis, such as is liable to occur during puberty "where the rapid growth of the body is out of proportion to the functional powers of the internal organs." Dilatation of the heart, tension of the arteries and accentuation of the second (aortic) sounds were frequently noted. The condition is readily outgrown, not having been found in any of the men in the same factory above twenty-five years old. The diagnosis from chronic interstitial nephritis is made by the slight amount of albumin, the rare occurrence of hyaline casts and the distinct intermittent type in the latter. Moderate cardiac changes are not valuable, as they occur in both.

Actinomycosis, states Bevan (*Ann. of Surg.*, May, '05), appears clinically under four different forms from four different routes of infection. That of the head and neck, with infection from the mouth and pharynx in fifty per cent. of the cases; chest actinomycosis through the respiratory tract in fifteen to twenty per cent.; the abdominal type with infection through the alimentary canal, or through the genital tract in the female, in twenty to twenty-five per cent. of the cases; and actinomycosis of the skin in two per cent. The disease is not rare, its cause in man is the ray fungus which may enter through the mucosa, leaving no discernible lesion at the point of entrance. The primary lesion consists of granulation tissue and it extends in all directions, rarely by the lymphatics. The pyemic form may result from breaking through a vein, multiple foci being established in the lungs, liver, spleen, etc. The prognosis is now distinctly better than formerly; some cases recover spontaneously. If surgical treatment is not possible, the prognosis is grave, but not hopeless. If possible the diseased tissue should be incised, scraped, cauterized with nitrate of silver stick, the cavity packed with iodoform gauze and the iodide given internally in large doses. The X-ray should be used subsequently.

General Therapeutics in Eye Diseases is discussed by A. M. Ramsey (*Jour. A. M. A.*, March 4, '05), who points out the danger of a narrow specialism and the necessity of paying attention to the broad principles underlying all rational therapeutics, with especial regard to the eye. More than its proper value should not be assigned to local treatment. It is necessary to study the general principles of pathology before real progress can be made in ocular therapeutics. Local conditions can often be explained by a study of the general systemic condition. Improper feeding with defective metabolism is often, for instance, the cause of phlyctenulae. The importance of rest as an aid to nutrition is emphasized.

Radium not a cancer cure is the conclusion reported at the third annual meeting of the cancer research committee in London. Sir William Church, president of the Royal College of Physicians, declared that the year's investigations confirmed the conclusions announced in 1904, that cancer has no associations with peculiarities in diet, climate or mode of life. It appears that cancer cells have the power of perpetual multiplication; and the results thus far obtained would argue the necessity for close study of the processes of cell multiplication wherein seems to lie the secret of the malignancy of cancer. The property here set forth definitely separates cancer from known infectious diseases. Many experiments were made in the treatment of malignant growths; but immunizing with serums seemed ineffective, except as they—in some cases—deprived the cells of the power of growth. The action of radium and radioactive solutions was carefully studied, with the result that though they sometimes influenced the growth and development of normal and tumor tissues, they had no selective or special action; while the amount of radioactive solutions necessary to produce any result far exceeded the quantity that could be safely introduced into the body.

The National Food Manufacturers' Association, with headquarters in Chicago, has been formed for protecting "the legitimate manufacturers of food and food products and the consumer against adulterated, fraudulent and unwholesome food." The matter of pure food will be carried before the next Congress in an effort to get satisfactory legislation and the necessity will also be urged which manufacturers feel that their business with the distributors of their goods in different states shall be regulated by the Department of Commerce and not by the Department of Agriculture, at the same time, however, recognizing the importance of the supervision of the bureau of chemistry in the Department of Agriculture.

Relation of Diseases of the Eye to Those of the Teeth.—Under this caption *Carhart* (*Med. Rev. of Reviews*, February, '05) comments upon the very close anatomical relation between these members. The same periosteum which lines the orbital cavity extends to the alveolar border of the upper jaw. Often do the roots of the upper teeth extend directly into the antrum of Highmore, whence disease often reaches the orbit through the thin partition of bone. The angular artery and certain other vessels run almost directly from one region to the other. The same general nervous supply (including the sympathetic) reaches both. There is then a logical relation. Dento-ocular affections vary all the way from slight pupillary dilatation conjunctivitis and failure of accommodation on the one hand to absolute blindness, loss of the eyeball and possibly death on the other. W. Reber (*Ophthalmology*, Vol. I, No. 1.) considers that the assistance of the dental surgeon should be sought in all cases of unexplainable paralysis of the accommodation, dilatation of the pupil, palsy or spasm of the external ocular muscles, rebellious corneal ulcers, phlyctenular disease, lachrymal fistula, orbital cellulitis, abscess, caries and peritonitis and in threatening glaucoma without apparent cause. On the other hand the dentist should refer to the ophthalmic surgeon the development of any ocular symptoms whatever—particularly altered pupils or accommodation, lowered vision, painful eyeballs and swollen lids or orbital margins with prominence of the eyeball. In from two to ten days one may expect infection from an alveolar wound. Reflex affections (traumatic hysteria) may occur at almost any time within six months after an extraction; impressionable females are the likeliest subjects in this regard. Certain eye-strains may occasion neuralgias reflected along the dental branches of the fifth nerve, and thus make it appear as though the teeth were the primary offending cause. The small and the first great molar most frequently provoke the process that may involve the antrum, the lachrymal sack and perhaps the orbit. "A diseased tooth may express itself in almost any part of the body, while, on the other hand, disease in any part of the body may express itself in discomfort through a tooth" (Garretson).

The treatment of uterine bleeding is ably discussed by Boldt (*Bost. Med and Surg. Jour.*, January 12, '05), who has used stypticin in a number of cases with marked effect; in others it was powerless. Among thirty-five fibronyomata eleven were benefited, the rest were not. In one case of menorrhagia due to an interstitial fibroid the relief was very marked. In hemorrhage due to uterine cancer the result was negative. Five cases of post-puerperal bleeding were cured after the removal of retained placental shreds. Hyperplastic endometritis yielded well to curetting with stypticin; the glandular form did not. About half of Boldt's cases of chronic netro-endometritis were benefited by this treatment, which failed, however, to cure only three among twenty-three cases of non-suppurative pelvic inflammation. Stypticin was very beneficial in irregular bleeding during pregnancy; nor were there unfavorable symptoms as a result. Most cases of profuse menstruation in virgins without organic pelvic changes were benefitted; as also atypical bleeding without pathological cause during the climacteric. Boldt considers stypticin, while not a panacea for all cases, better than any other remedy; in some instances it has been a specific. If no effect is produced after three large doses (2½ to 5 grains), its continuance is useless. In fibroids its use should be discontinued if two hypodermics of five grains each at intervals of from ten to twelve hours do not diminish hemorrhage. No harmful results have followed the use of stypticin even in 5-grain doses every three hours. Sometimes the pain associated with bleeding has also been relieved by this drug.

For too profuse bleeding one should begin with one-grain doses till about one week before the expected flow; upon the appearance of the flow 2½ grains should be taken every three hours through the entire period. Metrorrhagia requires 2½ to 5 grains every two or three hours until the bleeding is lessened, when the dose may be gradually decreased to one grain every four hours. If quick results are imperative from 3 to 5 grains may be injected in a 10 per cent. solution into the buttocks. The taste of this drug is disagreeable; it should therefore be given dry in capsules.

Uric Acid.—The *Journal A. M. A.* has in its issue of May 13th completed its important series of editorial papers summarizing the present-day knowledge upon this subject. In this series are to be learned the physiological and pathological action of uric acid in the organism and the qualities and relationships of this chemical compound. The exogenous and endogenous uric acid of oxidative origin are distinguished; and a differentiation between these and that of synthetic source. The methods of its formation and destruction and the approximate localization of these processes in the body are set forth; as also the fact that this substance circulates in the blood chiefly as mononatrium urate or in combination with thymin acid. Gout is probably the only disease for which disturbances of uric acid metabolism are directly and mainly responsible, and the bearing of the facts set forth on the rational treatment of this disease is pointed out. In combating the primary disorder of metabolism we must protest against the influences that favor its development, and we may also attempt to prevent the deposit or excess of uric acid or urates in the body. The formation of exogenous uric acid can be largely controlled by diet, limiting the nucleins and purin derivatives in the food. There is no certain proof that drugs can diminish uric acid formation, though claims have been made for China acid. To increase the secretion of urine is the best way to increase the excretion of uric acid; hence copious water drinking is advised. How to destroy uric acid in the body is not clear; there is no proof of any diminution of the oxidative processes in gout or any basis of the opinion that drugs hasten uric acid destruction. "Antilithic" and "uric acid solvent" treatment is fallacious; for it is impossible to produce in the blood and tissue juices exactly the soluble urate needed and by the further fact that the solubility of any urate is decreased by the sodium salts in the blood. If uric acid is to be rendered more soluble in the blood it must be by the formation of some easily soluble combination with other organic compounds with production of substances which are not dissociable—that is, which are not salts. Uric acid combines with thymin acid in this way and also with formaldehyde forming a non-salt-like compound, but it is doubted whether such substances ever really exert any beneficial influence on gout. The best that can be expected from drugs at present is the relief of pain by the use of salicylates, colchicum and the like. The therapy must be essentailly a well-regulated régime with rest and local applications for the acute attacks. For the tophi in the points local phagocytic activity may be excited by means of hot applications and massage.

The Nervous System in Chronic Nephritis is considered by Leszynsky (*Med. Rec.*, May 20, '05), who finds that the following manifestations may be expressions of kidney insufficiency: Cephalic paresthesia; headache in various degrees to true attacks of migraine; insomnia; numbness in the extremities; neuralgic pains in different parts of the body; vomiting; muscular twitching; monospasm or hemispasm to general epileptic convulsions; amaurosis; deafness; transitory attacks of aphasia; facial paralysis; paresis or paralysis of one extremity; hemiparesis, hemiplegia or paraplegia; gradual or sudden coma; delirium; stupor; insanity; permanent hemiplegia with or without aphasia. Most of these conditions are discussed in detail by this able observer; and the deplorable fact is emphasized that sufficient attention is not paid to determining the significance of nervous symptoms. Many cases of chronic nephritis with nervous manifestations are incorrectly diagnosed by the attending physician. In some cases the urine has not even been examined.

Cancer in and about the mouth.—Cobb (*Bost. Med. and Surg. Jour.*, April 13, '05) emphasizes the importance of early differentiation between a benign growth and one in which we must wait for symptoms of degeneration. Leukoplakia has the longest period of incubation. Microscopically the patches are scar tissue and frequently degenerate into epithelioma. When ulceration appears induration should be sought for; simple ulceration may also become carcinomatous. In doubtful cases anti-luetic mediation should be tried a week before operation. Traumatic ulcerations may almost always be associated with their causes. In making wedge-shaped incisions for examination one must cut into healthy tissue wide of the lesion to avoid metastases and to afford comparison under the microscope between the healthy and the diseased tissues.

Brain Tumor and Trauma are differentiated by E. W. Holmes (*Am. Med.*) who finds that the pathology of a traumatic cerebral growth is not essentially different from that of tumor elsewhere, though modified by the peculiar structures from which it may spring, by its method of nutrition and by the very means which are intended for the protection of this portion of the nerve axis. Where the force is excessive, physical and anatomical conditions become a source of danger, tending to the development of new growths at a distance from the point of impact. The effect of injury in producing tumor is not solely from the violence, but is also from perverted nutrition and development. The mysteries of tumor growth in this region will therefore have to be explained upon a chemico-physiological rather than upon a bacteriological basis. Sachs tabulated 600 brain tumors, of which 299 were upon the cortu of the cerebrum and little brain, the portions most exposed to injury. The time of appearance of the tumor after a blow is without limit. We have dealt editorially with the diagnosis of lesions of the encephalon due to traumata (June, '04).

MISCELLANY

A generous public contributed ninety-two thousand dollars in the "Hospital Sunday" collections in New York City.

Dr. Osler has arrived, comments *London Punch,* and all persons over a certain age are trying to look as young as possible.

All idiots or cretins in the Alps, states the *British Medical Journal,* are to be treated at Government expense with tablets of thyroid extract from sheep and other domestic animals.

Beardless physicians are hoped for in Iowa, the Board of Health of that State having requested its physicians to this end, on account of the possibility of beards being carriers of infection.

Artificial teeth are now no longer provided recruits by the British Army Council. The soldiers would not pay for their teeth out of their shilling a day, as agreed, and when ordered to, deserted, "teeth and all."

"**The complete comprehension** of a discovery is often not made by the discoverer himself, but he may be brought to a wider comprehension of his contributions to science by the opposition of men of authority."—Ceradini.

The optional disease is the term applied by Spalding (*St. Louis Med. Rev.,* June 3, '05), to smallpox. Failure to obtain "a take" in vaccinating is usually due to an inert virus and sometimes to improper technique in vaccinating.

A milk bottle made of paper is described by *Sanitation* as being made of spruce wood fibre paper saturated in paraffin to the boiling point, after which it is baked. This process very effectively sterilizes the bottle. Thus will cleanly bottles be assured.

Before deciding to operate, Billroth always asked himself: "Would you permit such an operation as you intend performing on your patient to be done on yourself?" Years and experience bring in their train a certain degree of hesitancy, he declared.

Dr. Darlington, the Health Commissioner, has actually had the temerity to indicate a desire to have a voice in designing new subways in New York City. This is the opinion of some public officials. It shows, in fact, a very broadminded and sensible appreciation of the new aspects of subway sanitation which the hot weather have made manifest.

Menstrual urticaria is described by Miller (*Med. Rec.,* May 13, '05). Occasionally this lesion persists until the flow begins, rarely during the first day or two of its course. During the intervals between the periods the patient is quite free from attacks and she is perfectly healthy in other respects. The urticaria is of the ordinary type.

Prof. Nothnagel, a very great physician and clinician, has died. Since 1882 he was professor of clinical medicine in Vienna and was the author of a number of well-known medical text-books. It is said that papers were found in his room in which he described his symptoms hours before his death, before which he suffered three severe attacks of coma.

A noble deed nobly rewarded.—An employee of Bellevue Hospital found a fat-looking pocketbook containing two cents in good United States money. He returned it to its owner who sent him a note of thanks which dwelt at length upon the beauties and benefits of honesty and concluded by begging him to accept the enclosed reward—exactly one-half the amount found.

Burning his children's fingers with matches is the accusation upon which a man living in Orange, N. J., was found guilty. The middle fingers of the two children, aged three and five years, were so terribly injured that weeks were required for healing. The father declared that the children, young as they were, were beyond his control. He had not intended "to burn them so severely."

An association for the prevention of infant mortality is reported to have been formed in Russia. More than half the infants born in the Czar's European dominions die under the age of one year. It is purposed to establish creches and hospitals in the country districts, to provide good milk in plenty for poor children and to diffuse among the people a knowledge of the principles of hygiene.

The Harvey Society, consisting of laboratory workers in New York City, has recently been established under the patronage of the Academy of Medicine. Its purpose is the diffusion of scientific knowledge by means of public lectures. There will be two classes of members, active and associate. The latter will be such persons as may be in sympathy with the objects of the society and reside in New York.

A nurse's suit against a physician resulted in a verdict of $250 for the former, in Cambridge, Mass. The latter was accused of stating "publicly and maliciously" that the nurse's neglect resulted in the deaths of several patients. The physician considered that in his position the statements were privileged; having been asked about the nurse he had honestly replied that he did not care to recommend her, he declared.

A Sanatorium for New York City's poor consumptives has been secured by the Health Commissioner, after much effort, and failures not a few. It will be situated in Orange County, permission having been secured from the town authorities of Greenville and Mount Hope. Options are also secured on several thousand acres of land. Dr. Darlington has worked so quietly that he has secured the required permission before his object became generally known.

An ice plant is used in the Middlesex Hospital in London which produces three tons in twenty-four hours at a cost of $2 a ton, as against nearly $6 a ton, when purchased. The evaporating coils of the apparatus after making ice are immersed in a brine tank a little way from the plant, and the brine thus cooled is used to reduce the temperature of four chambers to a point a little above freezing. Two of these chambers are used for preserving food, one for preserving specimens for the pathological school, and the fourth serves as a mortuary for twelve bodies. Assuredly pure water is distilled by this means.

The penalty of "unconscious impulse" has been paid by a Bellevue interne who used the Paquelin cautery upon a patient in an obnoxious manner. The interne in justifying himself to the authorities stated that while treating the patient a colleague looked in at the door and said: "That's a fakir you have there." Whereupon the interne (so he declared) without any conscious impulse of his own, traced the word "fakir" on the patient's chest. He was "astonished and horrified when he saw what he had done." His explanation did not save him, however, and he was summarily dismissed from his hospital service; and rightly, too.

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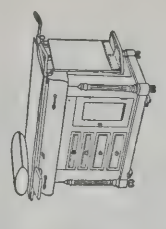

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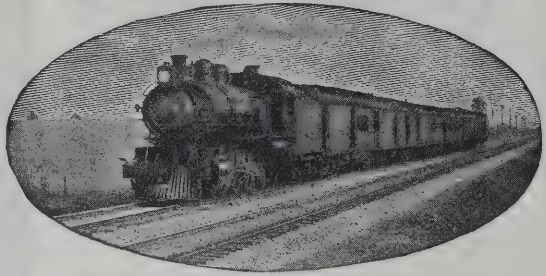

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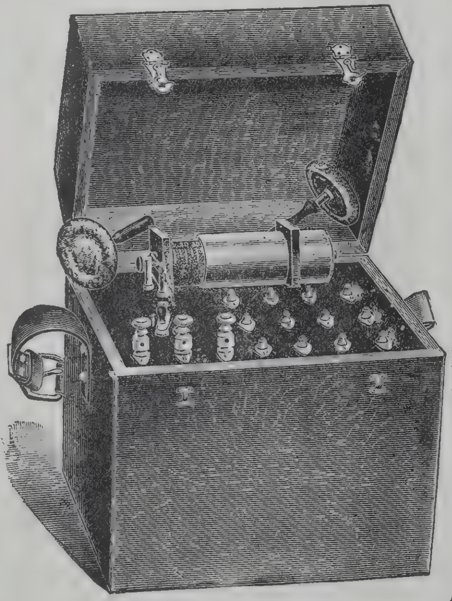

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(From the "*Deutschen Medizinischen Wochenschrift*, No. 9, 1905.)

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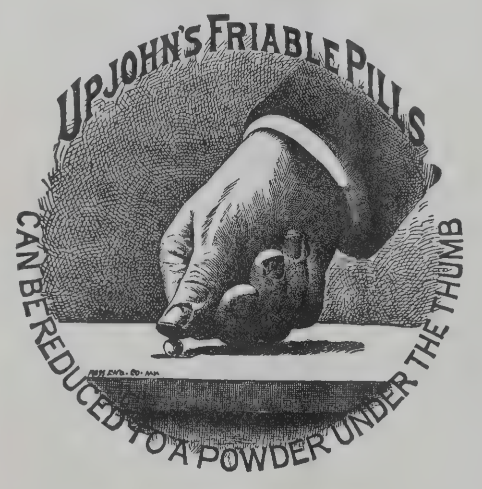
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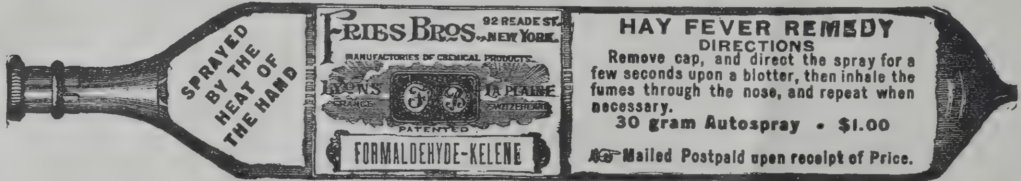
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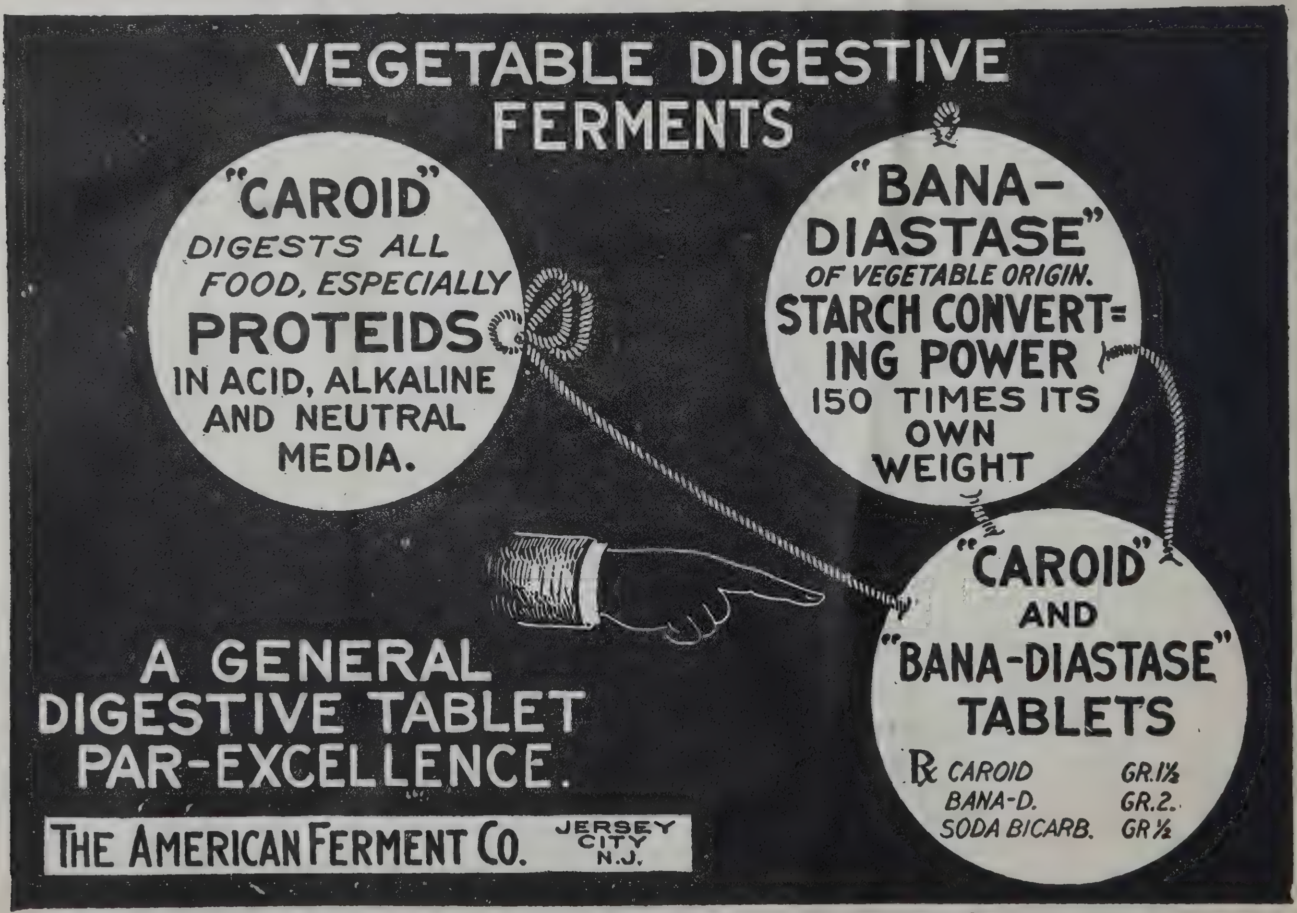
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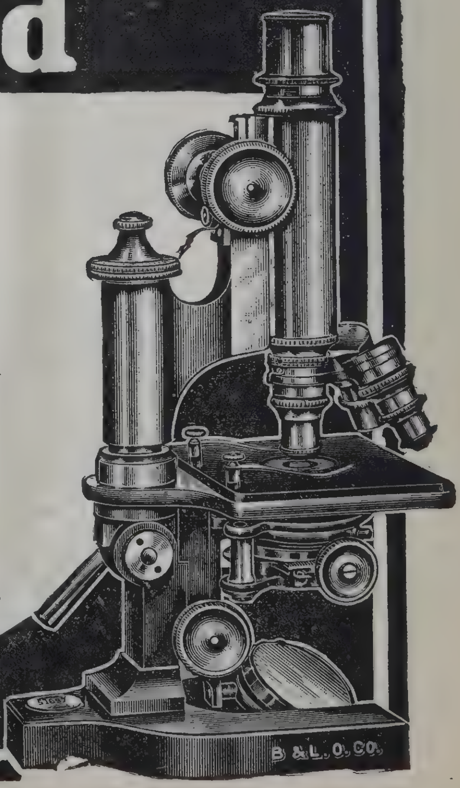

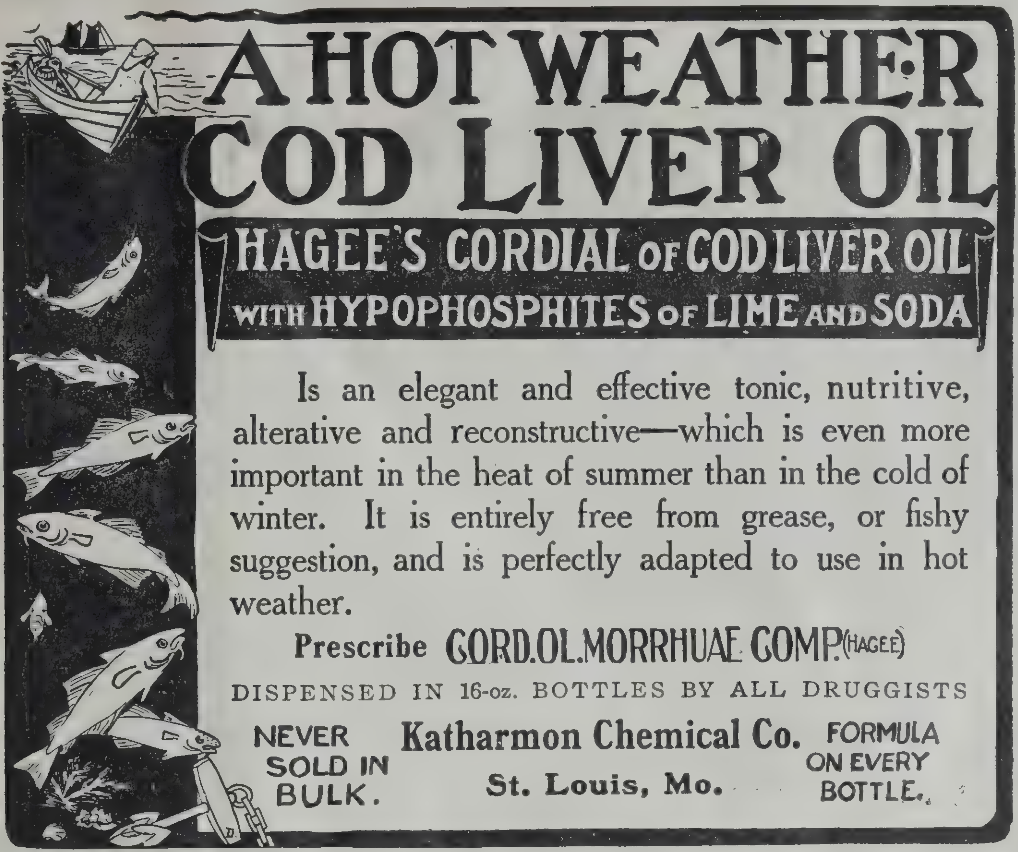

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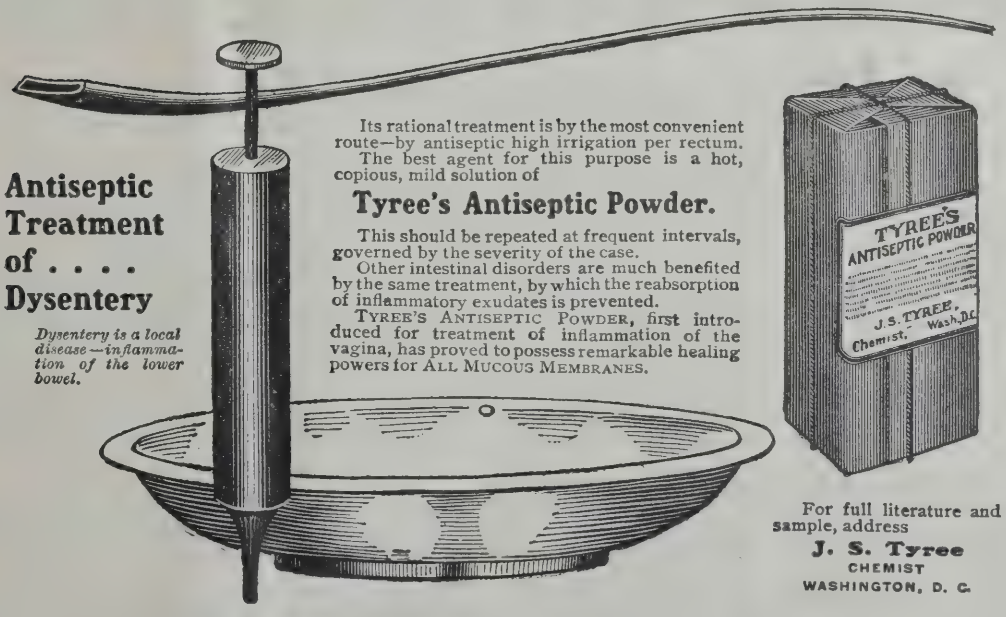

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SELECTIONS

Farming for Girls. Hugh Spender has written for the August Century an account of "Lady Warwick's Farming College for Girls." The Countess of Warwick, one of the best-known women in England, is deeply interested, as one of many lines of socialist work, in providing profitable and healthful means of livelihood for girls of the middle class. Studley Castle and Park, the outgrowth of Reading Hostel started by Lady Warwick nearly ten years ago, offer practical instruction in dairying, gardening, and similar lines of work. As the college is open to both American and English girls, its workings and success are of much interest and importance in both countries.

School and College Sport. The leading article in the August Century will be a discussion of "The Spirit of School College Sport: American and English Rowing," by Ralph D. Paine, formerly one of the Yale crew, and considered an authority on college sport. Mr. Paine likes the "genial flavor" which characterizes English athletics, and holds that the professional coaching system in America is not an unmixed good. He writes with an experience, enthusiasm, and authority that should give his article wide interest.

"Sport for Sport's Sake." From Ralph D. Paine's "The Spirit of School and Sport" in the August Century. Despite its heavy handicaps, however, more of "sport for sport's sake" can be infused into American rowing. But the path to betterment in this most delightful and beneficial of skilled pastimes will be blocked so long as it is wholly in the hands of professional coaches, to whom sentiment is an incongruous element in their business, which is to teach crews to win races and to gain nothing else. The worst fault of the professional coaching system is that it adds fuel of its own to the tense eagerness to win that inspires the American youth in the world of sport. The whip and spur are applied where the curb is needed.

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RESINOL Is the specific for all forms of pruritus. There is nothing that produces such immediate cessation from its pain, burning, and intolerable itching. Resinol Soap possesses the healing qualities of the Ointment, and is invaluable for cleansing affected parts.

I tried your Resinol Ointment on myself. I had suffered from pruritus ani, or marginal eczema, for 25 years, and had tried many remedies without any relief, until Resinol proved soothing and stopped the itching instantly.
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Resinol Ointment is the first local application I have found, that has given lasting and gratifying results in the treatment of pruritus vulvae. Dr. Grace Wintersteen, Harrisburg, Pa.

I have used Resinol Ointment in my practice ever since it cured me of a severe case of pruritus of 15 years standing.
L. A. Clark, M.D., Cambridge, N. Y.

I have been prescribing Resinol Ointment for quite a while with very happy results, and find it excellent in all forms of skin diseases, also in many troubles of the vagina and rectum. Especially is it appreciated by the physician and patient in pruritus. W. E. Reynolds, M.D., Hopkinsville, Ky.

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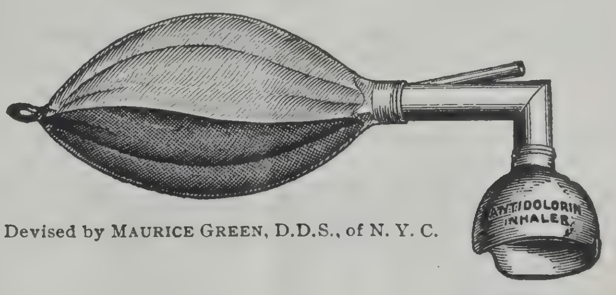

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SELECTIONS

Messrs. Lea Bros. & Co. will publish September 1st, the National Standard Dispensatory, a completely new work of paramount importance to every physician and pharmacist. It is a new work, a distinct improvement upon anything of the kind hitherto published. Its authors, Dr. H. A. Hare, of Philadelphia; Prof. Charles Caspari, Jr., of Baltimore; and Prof. H. H. Rusby, of New York, are all men of the highest eminence in their respective fields, and are all members of the Revision Committee of the U. S. P. They have carefully matured its plan so as to render the maximum service to both professions it interests, namely, Pharmacy and Medicine. It not only covers the new U. S. P. as aforesaid (and the chief foreign pharmacopœias as well), but the scarcely less important domain of the unofficial drugs and preparations so largely used. It offers full information regarding the pharmacognosy, the pharmacy, and the medical action and uses of all substances used in Pharmacy and Medicine of the present day. Pharmaceutical methods and products are covered, with descriptions of the most approved apparatus and tests.

The New United States Pharmacopoeia, is just off the press, and we especially desire to call the attention of our readers to the changes in strength of Tincture of Aconite, Tincture of Veratrum, and Tincture of Strophanthus, which are as follows: The strength of Tincture of Aconite has been reduced from 35 per cent. to 10 per cent., and that of Tincture of Veratum from 40 per cent. to 10 per cent. The strength of Tincture of Strophanthus has been increased from 5 per cent. to 10 per cent. These changes have beon made in order to conform to the standards adopted by the International Conference on Potent Remedies held at Brussels in September, 1902, the object being to make uniform the strength of potent remedies in all parts of the world.

A leading doctor writes as follows: "Some time ago my brother told my wife that he thought Sal-Codeia Bell would be better than anything else she had ever used for the neuralgic headaches from which she has been such a sufferer. About the same time he had a bottle of the tablets sent to her. I have now purchased the third bottle for her, as we are going to Atlantic City, and she does not wish to be without them."

Dr. F. Park Lewis, of Buffalo, recently delivered an able address at the commencement exercises of the "Brooks Memorial Hospital," Dunkirk, N. Y., on "The Graduate Nurse, Yesterday, To day, and To morrow." He said in part: "In greater New York there are now almost as many pupil nurses enrolled as five years ago were to be found in the entire United States. There are eleven training schools in the city of Buffalo alone, exclusive of that connected with the State Hospital. There is one connected with Memorial Hospital at Niagara Falls and one with the Memorial Hospital at Dunkirk, before whose graduating class I have the honor of speaking to night, one at Jamestown, one at Elmira, one at Corning, one at Canandaigua and others at other towns in Western New York, while the central and eastern parts of the state are in no degree behind. The city of Rochester has six schools with nearly 200 pupils, and a like center is found in Syracuse and another in Albany. But this growth, gourd like in its rapidity, has not yet had time to assume an orderly development. With this multitude of schools there is as yet *no uniformity of curriculum.* This lack of uniformity is a natural, and perhaps inevitable part of evolution; but if trained nursing is to become an integral part of the educational system of the state, so chaotic a condition of affairs should not be tolerated longer than is positively necessary. Schools connected with the larger and better equipped hospitals have certain advantages which make it difficult to emulate them, but better system and a nearer approach to uniform methods is certainly possible."

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Which yields thirty times its volume of "nascent oxygen" near to the condition of "ozone," is daily proving to physicians, in some new way, its wonderful efficacy in *stubborn cases* of ***Eczema, Psoriasis, Salt Rheum, Itch, Barber's Itch, Erysipelas, Ivy Poisoning, Ringworm, Herpes Zoster or Zona, etc. Acne, Pimples on Face*** are cleared up and the pores healed by **HYDROZONE** and **GLYCOZONE** in a way that is magical. Try this treatment; results will please you.

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associated with deficient gastric juice depends for its success upon the gentle stimulation of the gastric glands by the action of certain chemical excitants.

Ext. carnis fl. comp. (Colden) contains a number of the most potent of these physiological or chemical excitants so proportionably combined that effective excitation may be secured without undue stimulation.

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W. John Harris, M. D., *Surgeon, Mother and Babies' Home and Hospital, St. Louis:* "I have been using Valentine's Meat-Juice for years, and in Typhoid Fever there is nothing answers so well. I have used it in Phthisis and all forms of Bowel Troubles with children, and it is also especially useful in chronic cases of Marasmus in young children."

H. L. Northrop, M. D., *Prof. Anatomy, Hahnemann Medical College, Philadelphia:* "I have used Valentine's Meat-Juice in Typhoid Fever and found it palatable and nutritious, and retained on the stomach without difficulty. It was in every way all that was claimed for it."

Physicians are invited to send for brochures containing clinical reports from hospitals and general practitioners in all parts of the world.

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Richmond, Virginia, U. S. A.

VALENTINE'S PREPARATION
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MEAT JUICE.
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Directions.—Dissolve one teaspoonful of the Preparation in two or three tablespoonfuls of cold or moderately warm water. The Use of Hot Water changes the character of the preparation.

THE INDIVIDUALITY OF DISEASE.

BY F. B. BRUBAKER, M.D., MIFFLINBURG, PA.

"THE luminiferous ether fills stellar space and makes the universe a whole, rendering possible the intercommunication of light and energy between star and star, but the subtle substance penetrates farther, for it surrounds the very atoms and molecules of solid and liquid substances. Transparent bodies are so related to each other that the waves that excite light can pass through them without transferring their motion to the atoms. In colored bodies certain waves are absorbed, but those which give the body its color pass without absorption."

Humboldt, in his observation at the Falls of Orinoco, found the noise of the falls far louder by night than by day, though in that region the night is far noiser than the day. The space between him and the falls consisted of rock and grass intermingled. In the heat of the day he found the temperature of the rock to be considerably higher than that of the grass. Over every heated rock he concluded rose a column of air rarefied by the heat, its place being supplied by the descent of heavier air. He ascribed the deadening sound to the reflections which it endured at the limiting surfaces of the rarer and denser air.

It will thus be apparent that we are here face to face with three different forms of energy, else one form which manifests itself in three ways. First, we find that there is a difference between the conduction of sound at the Falls of Orinoco, it being greater by night. Secondly, we find that when the rocks were heated as during the day, the air arose the heavier and the denser air offering to the conduction of sound a different surface. This interrelation of light, heat and sound being found upon examination to be but different forms or manifestations of one form of energy, wave lengths, in short. We likewise find that the law of this reflection is precisely the same, illustrating the analogy between light and radiant heat, as regards reflection.

If now we inquire into the physical cause of color, we find that it is always dependent upon absorption; absorption of some of these very wave lengths. The visible rays, those relating to light. While here again we find that the angle of incidence is equal to the angle of reflection, so that whether we consider sound, light or heat, which we have found to be different expressions of one force, we find them responsive to the same law, as sound is to the clashing of forces, a waste energy, and as heat is to motion a resultant quantity, so color is to growth.

If we turn our attention to the skin, the anatomical structure of which consists of the cutis vera or true skin, and a layer of compact tissue covered by the epidermis or cuticle, this likewise consists of several layers of which the deepest (stratum mucosum or mucous layer) is of large and moist cells while those of the uppermost (stratum corneum or horny layer) are dry and hard. Between these is often a layer of granular cells (stratum granulosm) while overlying it is a thin glassy layer (stratum lucidium), the pigment in which will be found in granular form within the deeper cells of the stratum mucosum, being more abundant in quantity in those cells which rest on the surface of the cutis vera and gradually dimiinishing in amount as we pass from the deeper cells to the surface, until at length it disappears altogether, and the superficial layers of the epidermis are left clear and transparent.

This pigment of which malanin is an important constituent is a highly complex body, possessing remarkably stable qualities. What we know of its chemical constitution we owe largely to the researches of "Sorby," whose monographs still remain the standard authority. That observer conducted his experiments on the pigment of the hair, which for all practical purposes may be considered as identical with that of the skin. He was able to isolate three pigments, a brown red, a yellow and a black. In the lighter tints of hair the two former colors or admixture of them are alone met with. When the shade grows deeper, it is due to the admixture of the black constituent in variable quantity. In absolutely black hair after the black pigment has been separated out, a large proportion of the red and yellow pigments may still remain. Thus "Sorby" found that some very black negro hair contained as much of the red constituent as any equal weight of very red European hair. Now whether we classify man as a single species as did "Darwin," as two as did "Virey," or four as did "Kant," as six, "Buffon," as eight, "Agassiz," or as sixty-three as did "Burke," and with authorities at almost all intervening numbers, one thing is certain, and that is that he varies, and it will be at once apparent that the distinctive characteristic on which naturalists have based the classification, at least in late years, has been the color of the skin and hair. Let us inquire in the first place whether geographical distribution has any controlling influence therein, or whether on the other hand the normal coloration of man (variable as no one denies) is the result of chance? We are deeply impressed with the fact first noticed by "Agassiz" that the different races of man are distributed over the earth in the same Zoölogical Provinces as those inhabited by distinct species and genera of animals. This is manifestly so with the Australian, Mongolian, and Negro races of man, a little less so with the Hottentots, but plainly so as shown by Dr. Wallace with the Papuans and Malays, who are separated by nearly the same line as divides the great Malay and Australian Zoölogical Provinces. And whether we consider man as originating at some select spot on the earth or whether springing into existence coincidently or successively in many spots, we find that owing to migrations, north, east, south and west, he has become variously crossed, being fertile in all directions. In Brazil, we behold an immense mongrel population of Negroes and Portuguese. In Chili and other parts of South America the whole population consisting of Indians and Spaniards, blended in various degrees. In the Malay Archipelago are found two strongly contrasted races. The Malay occupying almost exclusively the larger western half of it, and the Papuans, whose headquarters are New Guinea and several of the adjacent islands. Between these in locality, tribes who are also intermediate in their chief characteristics, and it is sometimes a nice point to determine whether they belong to one or the other race or have been formed by the mixture of the two. In the great island of Ceram there is also an indigenous race, very similar to that of Northern Gilolo. Bouru seems to contain two distinct races, a shorter round face people with a Malay physiognomy, who may probably have come from Celebes by the way of Sula Islands, and a taller resembling that of Ceram. Far south of Moluccas lies the island of Timor inhabited by tribes much nearer to the true Papuan than those of the Moluccas. In the islands west of Timor as far as

Flores and the Sandalwood islands a very similar race is found which also extends eastward to Timor-laut where the true Papuan race begins to appear. The small islands of Savu and Rotti, however, to the west of Timor, are very remarkable in possesing a different and in some respects peculiar race. These people are very handsome with good features, resembling in many characteristics the race produced by the mixture of the Hindoo or Arab with the Malay. They are certainly distinct from the Timorese or Papuan races, and must be classed in the western rather than the eastern ethnological division of the archipelago. Thus it will be observed that a great intricacy exists if one should in all cases as did Dr. Wallace in this, attempt to decipher the exact origin of these various people. However, there is one fact, a truth with which this essay has much to do, and that is that regardless of origin, regardless of great crossing of these people for thousands of years, the *color* of all these varied tribes is a light reddish brown with more or less of an olive tinge not varying in any important degree over an extent of country as large as all southern Europe. The hair being equally constant, being invariably black and straight and of a rather coarse texture, so that any lighter tint or any wave or curl in it is a certain proof of the admixture of some foreign blood. The face is nearly destitute of beard and the breast and limbs are free from hair. The stature is tolerably equal and is always found considerably below that of the average European. It is to be especially remarked that the brown and the black Polynesian races closely resemble each other. Their features are almost identical so that the portraits of a New Zealander or Otaheitan will often serve accurately to represent a Papuan or Timorese, the darker color and more frizzly beard of the latter being the only difference. "I believe, therefore," says Dr. Wallace, "that the numerous intermediate forms that occur among the countless islands of the Pacific, are not merely the result of a mixture of these races but are truly *intermediate or transitonal,* and that the brown and the black, the Papuan, the native of Gilolo and Ceram, the Figian, the inhabitants of the Sandwich Islands and those of New Zealand, *are all varying forms of one great Oceanic or Polynesian race.*" In color brown blending to black as we go southward. True it is that this fact relates to the indigenous population directly and not to the imported, so that the exception to the rule can be easily noted. Australia with her aboriginal type, New Zealand with hers, Southern Africa to the west, with the great Indian type of South America in the New World, a gradation of color from brown to black as we go southwards under and beyond the equator. Nor is this all, for upon closer inquiry and extending our observations northward, we are at once struck with the fact that the Malayan race as a whole, very closely resembles the East Asian population from Siam to Manchuria. "I was much struck," says Dr. Wallace, "when in the island of Bali I saw Chinese traders who had adopted the costume of that country, and who then could hardly be distinguished from Malays." But what renders this fact all the more trustworthy is that in passing in a direct line westward we at once behold the great similarity of type, although here as indeed everywhere over the habitable globe, but especially here it is necessary for the student to be extremely careful in not confounding the indigenous with the imported, which in some countries has entirely changed the type. However, whoever attends to the subject closely cannot escape the fact that pursuing a direct line westward between these same lines of latitude, of which Manchuria forms the northern boundary, the yellow or coppery color prevails. Westward through Afghanistan, Persia, Arabia, Egypt, Algiers and Morocco, the type Mediterranean westward to the United States. What more distinctive, what more nearly allied in color than the aborigines of the United States and the Chinese, making due allowance for the longitudinal difference, being a little less yellow and a little more coppery in the west. But this is not all for pursuing our journey northward and taking in all that vast country comprising Europe and other northern land surface, we behold a gradual fading of color into the fair of southern and the blond or flaxen of Northern Europe. Now whether we consider the cradle of the human race as the tropics, or on the other hand whether we believe man to have first seen the light of day nearer the poles, it matters not, seeing that he has spread over the earth, and that he varies not only as regards his height, weight, mentality, etc., but likewise in color, the special inquiry we are making. For starting in the extreme north and pursuing our uninterrupted way southward, man in the consideration of color is found to progressively deepen. Nor is this fact without its direct and physical analogy, for De Lanpouge, following Gobineau, declares of the Aryan race of Northern Europe, tall, long-headed and blond, and says of them, "They are the stirring, active, ambitious, independent, courageous, locomotive element of mankind, the salt of the earth." Statistics show that the long-headed European has the upper hand in almost all cases, having far more than his proportionate share of wealth, he gravitates upward towards the higher social strata, and his preponderance in the higher schools is great. Going southward in an intellectual as we came northward in a physical investigation and viewing the same in its indigenous entirety, we are not a little surprised to observe that nature has in no wise been idle. Now whether we believe color to be accidental, or whether we believe it to have resulted from some selective power of nature, one thing is certain, and that is that turning our attention to the animal world and starting in the north we find that a large number of animals have a winter coat differing remarkably in color, as well as in length, from the summer dress. This is manifestly so in Arctic varieties. The lemming, for instance, which is a mouse-like creature, which as winter approaches turns snow-white. Pallas states that in Siberia domestic cattle and horses become lighter colored, and the roebuck, which in summer is of a foxy red color, as winter approaches changes to a gray fawn with a large patch of pure white on its buttocks. In our own country, the Adirondacks ermine and mountain hare undergo the same change to a colorless, white garment, and Dr. C. H. Merriam asserts that the whiter coat is assumed only after the first snow fall. Now these sudden and complete changes in the extreme north find their counterpart as we go southward, and if we take the trouble to examine into the subject closely we will find here as elsewhere that nature draws no close or exclusive lines of demarkation, but silently works out her ofttimes unobserved plan, so that going southward in the study of animals as we came northward in the study of man, we find our rule works itself. Mr. J. A. Allen, than whom there is no better authority, assures us that birds become more strongly colored as we go southward, but this is not all for we find that a difference likewise exists in the same species between those inhabiting the seaboard and those ranging westward into more elevated tracts. Mr. Gould is firmly convinced that birds even of the same species are more brightly colored under a clear atmosphere than when near the sea coast or on islands.

In our own country a difference has been noticed entirely in accord with these facts, those species which range widely, say from the Atlantic seaboard to the Rocky Mountains, becoming progressively brighter colored as they range westward into the high and dry scope of country, comprising the Rocky Mountain district. I think we have all noticed this in the people of Kansas, Colorado, etc., they are not as fair skinned as their Eastern cousins. Wollaston is also convinced that residence near the seas affects the color of insects. If we should ask ourselves the question, what is the meaning of all this, admitting as we must that color is in some obscure way related to locality, that starting in the north with man as a fine skinned blond, we find him to pass through every intermediate shade to extreme or deep black, passing successively light yellow, yellow, deep yellow or coppery, light brown, brown and dark brown to light black, the farther south we go the black even differing in degree. We can arrive at but one conclusion relative thereto, and that is that color must subserve some good purpose in man's protection. Most of the great things that have been done in the world have been by the men of the north, the fair white man, but, alas, in doing them he and his progeny are very apt to perish. How few descendants can be found of great soldiers, travelers, discoverers, inventors or poets?

The higher and more enlightened classes in the communities, the producers and assimilators of new ideas have repeatedly in the course of history been swept away or decimated. Thus the noble Greek race which was long-headed and largely blond has now but few and doubtful representatives. The Ostrogoths, a people evidently of great capacities, almost wholly perished. The noble strains of the Irish perished or emigrated in the seventeenth century and nowadays in the cities of France and Central Europe the same class is found melting away to give place to fresh strains of peasant blood.

Inquiring now as to the mode of operation whereby nature holds prominently before us her wise but as yet little understood color scheme, we find that she acts in one or two ways, direct or indirect, first selectively. Fritz Muller states: "That in southern Brazil several kinds of butterflies show an unmistakable preference for certain colors over others." He observed that they very often visited the brilliant red flowers of five or six genera of plants, but never the white or yellow of the same or other genera growing in the same garden. Mr. Doubleday states: "That the common white butterfly often flies down to a bit of *white* paper on the ground, no doubt mistaking it for one of its own species, or what is more probable, for a white flower, having become so colored by exclusively visiting this color of flower."

In fishes in many species the males while young resemble the females in color, but when adult become more brilliant and retain their color, throughout life. In other species the males become brighter than the females and otherwise more highly ornamented, during the season of love, this of course relating exclusively to sexual selection, but nevertheless perpetuating the highest forms.

Among snakes the female rattler of our own country can readily be distinguished from the male by having more lurid yellow about its whole body, likewise the male English viper is more distinctly defined than the female in regard to color. With many lizards the sexes differ slightly in color, the tints and stripes of the males being brighter and more distinctly defined than in the females.

Audubon, the great naturalist and ornithologist, says: "That he does not doubt that the female bird deliberately chooses her mate." Speaking of a woodpecker, he says, "the hen is followed by a half-dozen gay suitors, who continue performing strange antics until a marked preference is shown for one, by the deliberate choosing of the female in which color plays so prominent a role, it is plain to see that the stronger, more vigorous and higher type will prevail."

In this way is color protective, but it is only one of the many ways, for there is another and no less useful and important phase of animal existence whereby color is made to fulfil its protective sway, and that is where various creatures, birds, butterflies, caterpillars, etc., find protection from their respective enemies, by becoming colored green or otherwise, in exact imitation of their surroundings. Those individuals succeeding best in protecting themselves in this manner being the favored ones. Many instances of this fact might be given, but there is still another, one that concerns us most as physicians, viz.: That the external parasites infesting man and animals, have been found in each case to be specifically distinct. Charles Darwin, having investigated this subject thoroughly, being convinced that this connection is correlative with color. I was told on the best authority that when our American Army went to Porto Rico, the common house fly went with them in swarms, hovering over and about the bodies of our American horses, but that they did not stray on the bodies of the Porto Rican cattle, and what is still more singular is the fact that when the American Army came home, the house fly came with it, leaving the island in a body. Various reasons were given for this fact, none of which seemed to answer. To my mind, the house fly found something on the bodies of our American horses and cattle which they *did not find on the bodies of the Porto Rican cattle,* something which correlates them, and Darwin says: "That this correlation is color." Again, it has been noticed and is a matter of lay experience that certain animals are immune to certain poisonous plants, and this, too, Darwin says: "Is correlated with color." Having proceeded with a rather lengthy argument, let us now turn our attention to disease and we shall find that each country, as indeed different parts of the same country in many instances, possesses distinct or individual diseases. That each country in its aboriginal period possessed diseases peculiar to itself which to-day are extinct, and that new diseases from time to time spring into existence in the on-march of civilization, I am firmly convinced. The reason for which facts are manifold, and the law discoverable, but owing to emigration, whereby countries have become peopled with the blood of all nations, this truth is not to-day so plainly evident, however true. In a former essay we found that owing to the variability of the individual, the manifestations of disease must likewise vary, that the same medicine given in one country produced different effects than when given in another as likewise in different parts of the same country. Now while distinct geographical zones undoubtedly exist whereby catarrh and pulmonary affections are found in contradistinction to intestinal and febrile, while again some have a larger and indeed an almost universal range, as some of our widespread flora and fauna, yet on the whole this is not generally so, therefore, we find disease circumscribed and limited and only occurring as an accident in other situations and seldom or never spreading. As an instance, I would cite "leprosy." We find that it occurs in Iceland, Norway and Sweden, in parts of Russia, and only in certain provinces in Spain and Portugal, while the disease appears to have prevailed in Egypt even so far back as 3000—4000 B.C., and both in India and China the affection was also known many centuries before the Christian Era. The old Greek and Roman physicians were perfectly familiar with its manifestations. It is likewise common in the Sandwich and other islands of the Pacific. I have chosen leprosy because of its widespread distribution and yet to prove it an individual disease, that is, having its natural limitations, geographical, racial and physical, for if we can find one place on the habitable globe where leprosy has not spread, although introduced, we cannot but consider our argument as proven. Either the United States or Great Britain proves the point, for although we have cases of leprosy in almost every part of the United States, it does not spread. Dr. L. D. Buckley at a meeting of the American Climatological Association, a few years ago proved conclusively that *not a single case* of acquired leprosy has occurred in New York City, showing, of course, *that all the cases are imported.* One fact the leprosy commission under congressional favor overlooked being one of the most vital, and that was *who* the cases were. I grant you boldly that every American case of leprosy to-day was either imported or occurs among those having a racial leprosy ancestry, not necessarily affected, but liable to be infected, although resident here, but, Dr. Buckley seems to even disprove that fact, claiming that it is not acquired here regardless of ancestry. But we find more for inquiring closely into the subject, we find that residence in the United States or Great Britain *is actually curative of the disease.*

Let us take another disease, say yellow fever, and we find it to be prevalent in tropical and sub-tropical countries, occurring endemically in the West Indies and extending under suitable conditions into the southern states, occurring once or twice under suitable atmospheric condition and as an accident at Philadelphia, yet, no one will deny that yellow fever is a local or circumscribed disease.

Take the Madura foot disease, due to the presence of a mucedinous fungus which eats its way into the bones of the tarsus metatarsus and lower ends of the tibia and fibula, which in process of time tends to cause death by exhaustion, a disease peculiar to India and the Northeastern shores of the Persian Gulf. Has anyone here ever seen a case of Madura foot disease in his present practice? And why not? Simply because we do *not* have the fungus growth here, the exciting cause of the disease, and what is more should the fungus be imported here it could not thrive, because our atmosphere and soil conditions would not support its life growth. Take cholera. We are all familiar with how Koch went to Egypt as chief of a commission sent out by the German Government to investigate the matter. Koch isolated a spirillum and concluded that it was the cause of the disease, afterward proving the same. We likewise know that cholera is for the most part epidemic, that is, that when once it starts it spreads rapidly. Cholera has been endemic in India from a remote period, but only within the present century, mark you, has it appeared in Europe and America, but the singular thing about Asiatic cholera, is that which proves conclusively that disease does possess a distinct individuality, for Koch found that the germ of the disease, the peculiar spirillum, has a home, which he found to be the delta of the Ganges. *To this region careful inquiry has always been able to trace epidemics of this disease.* But you will answer, that there is no dispute that disease possesses a distinct individuality, there is no dispute that it has its natural limitations. We grant you that it is circumscribed and self-limited geographically and physically, but what has this to do with color, or the so-called races of man? Everything and nothing. Everything inasmuch as the black man is immune to certain diseases affecting the white, and vice versa. Everything in so far as all classes and conditions, except the Jew, fall before the dread germ of tuberculosis, and nothing in so far as all men are equal heirs to some disease. In a recent report of the Surgeon General of the Army to the Secretary of War, we find written: "Yellow fever and malarial fever are conveyed *always and only by the bite of the mosquito.*" Referring to the works of a prominent authority on the subjects mentioned we find firstly that yellow fever occurs in our southern states only in summer or during the hot season of summer or early autumn. Secondly, we find that it is a disease of the seacoast and rarely prevails in regions with an elevation of 1,000 feet and above. In malaria we find another exemplification of the same law. The altitudinal range being from 1,000 to 2,500 feet for different localities and countries, above which, as in yellow fever, no cases are to be found. The same fact being noted where squadrons lay a short distance from shore, while the land troops are suffering severely. But the mosquito explains it all, seeing that her natural habitat is circumscribed and limited, and what is true of the mosquito is likewise true of all disease producing organisms. Now the mosquito is a parasite belonging to a certain species and we find that is is selective, extending to the darker races of man at least a certain degree of immunity. In this way is color protective, for naturalists say that each animal species has its distinct parasite, and Darwin says: "It is correlated with color."

Having viewed the law let us now see in how far our theory is self-supportive. Each disease possessing a distinct individuality and being circumscribed and limited in geographical distribution, it becomes but natural to inquire whether what has been said of yellow fever and malaria can likewise be said for other and no less important affections. Believing as we necessarily must that all diseases arising without the body are due to some extraneous or foreign substance introduced, generally recognized as a poison, as that direct from serpents, etc., or due to germs or what not capable of manufacturing a poison, viz., the toxin, and recognizing that in all or nearly all cases, the same are possessed of a life history, and further that in each external conditions of food, heat, moisture, etc., is imperative, and likewise that as germs are in themselves distinct, so do their external requirements vary, it becomes at once apparent that from the very nature of these requirements which undoubtedly differ for each germ, disease must possess certain geographical zones or localities best suited to their growth, in this respect perhaps following the same laws of distribution as the flora and fauna of a country having a local peculiarity or individuality correlated to all else animate and inanimate, believing likewise that germs being for the most part vegetable organisms, are divisible into genera, species and varieties, with varying degrees of virulence and each choosing by preference that human individuality most susceptible to its influence, each being a parasite it becomes all the more easy of comprehension why the same disease varies even in members of the same family, no two individuals being exactly alike. But we must not make the fatal mistake in supposing that because of its parasitic nature and because of being divisible into species and varieties, or in short following the rule of all organisms, that, therefore, distinct and abrupt lines of demarkation will exist. On the contrary as before stated nature draws no such lines, and as one color zone becomes almost imperceptibly blended into another so does disease.

We have noticed that according to the best naturalists, differences exist in the color of almost the whole of nature, the sea-shore from more elevated tracts. We have noticed that the same is true in a north and south direction. We have learned that disease not only possesses a distinct individuality, but that it is likewise circumscribed and limited in locality, one disease being confined to the lowlands, another to the highlands. We have found that disease is parasitic. Naturalists tell us that each organism, vegetable and animal, has it destroying parasite, and Darwin, tells us: "Each is correlated with color."

The Pasteur Preventive Treatment of Rabies is now given by the New York Health Department at its Research Laboratory at the foot of East Sixteenth Street. The virus is also sent out mixed with a preservative daily by a special delivery to physicians, to be administered at the homes of patients. The latter method has been found to give as good results as when administered in the laboratory. Not more than two days should elapse between the mailing of the virus and its injection into the patient. The course of treatment lasts from two to three weeks. It is strongly recommended that wounds inflicted by rabid or suspected animals be thoroughly cauterized with fuming nitric acid or if possible with the actual cautery. The wound should also be immediately washed out. Animals suspected of rabies should be securely chained and kept for eight days under observation, during which time, if rabies exist, the disease will surely develop. If the animal is killed the carcass should be sent to the laboratory for diagnosis. The routine is to make an examination of smears and stained sections of the brain tissue, and also to make animal inoculation. By the former method a positive diagnosis may be made in from 36 to 48 hours. Failure to find characteristic lesions does not however exclude rabies. In the event of such failure the animals inoculated are relied upon for diagnosis, which usually requires from eight to eighteen days. In sending animals from a distance the entire body, if small, should go; if this is impossible, the head alone should be sent—securely fastened in a box and packed with much ice and sawdust; the whole to be shipped in a larger box.

THE LOGICAL BASIS OF THERAPEUTIC SCEPTICISM.

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THE growth within recent years of such faith-cure fads as Christian Science, Osteopathy, and Dowieism, are convincing evidence of increasing scepticism in the public mind against rational therapeutics. The belief in drugs is fading into a belief in miracles. Multitudes are abandoning the doctor for the mysticism of the healer and giving up their faith in naturalism for allegiance to the supernatural. This, to medical men, from a financial as well as from a humanitarian standpoint, is rather discouraging. It is certainly worth our while to give it some careful attention in order to learn its cause and see if some means could not be adopted that would promise its arrest. Every family converted to one or other of the new systems is a family lost to the medical profession and a serious cut into the income of some practicing physician. In this way millions of dollars are lost every year and thousands of lives sacrificed. It is useless to protest against this change in public opinion and quite as useless to invoke the fetish of legislation to try and stop it. Moore wisely said that:

"Faith, fanatic faith, once wedded fast to some dear
falsehood,
Hugs it to the last."

The great masses of men seldom, as a rule, accept any profound subject on any other basis than that of faith. They have neither the time nor the inclination to make a thorough study of deep problems. They never accepted drug treatment except as a matter of faith. They have never had any rational conception of how drugs cured, but have clung to the doctor as a matter of course, because they had been taught to believe that it was the right thing to do. When they give him up it is because some one has convinced them that drugs cannot cure. The conviction is usually based on the most flimsy ground but it is satisfactory to them and that is enough. When sickness overtakes them, after the establishment of this sceptical frame of mind, their only refuge is the modernized forms of charms and incantations. To a healthy mind a system that is mysterious and incomprehensible is one that has no attractions, but to a diseased or infirm mind the more unreasonable and the more incomprehensible a statement is the more attractive it becomes. It is interpreted as being so grand, so magnificent in its proportions that it transcends their mental grasp. When scepticism is combined with ignorance charlatans find a rich mine of gullibility on which to work.

But what is the foundation of public scepticism in this matter of drugs? There surely must be something upon which the opponents of scientific therapy are able to erect a plausable theory of attack. As every successful attack on the established faith of a multitude is one that arouses fear we might expect in this instance that an appeal would be made to this weak point by those opposed to drugs. In actual fact we find this to be the case. Every enemy of drugs uses the same kind of argument and repeats the same cry. It is always the cry of "Poison." For all time the masses have held as an article of supreme faith that a poison is a poison through and through, that no matter how small the dose it still remains poisonous in degree, and that its minute ill effects accumulate in the system until perceptible evil results occur, however infinitesimal the amount taken. It is likewise a tenet of this ignorant faith that the evil influences of small doses of drugs scar the system so deeply that the effect is felt through unborn generations. It should not be necessary to tell educated medical men that such a doctrine as this never has had the slightest iota of evidence to support it. Nor should it be necessary to inform them that every speck of the evidence of modern science that can be collected, emphatically negatives any such assumption. The belief that it is unlucky to see the new moon for the first time over the left shoulder is precisely of a piece with the usual ignorant doctrine of the nature of poisons. Kobert, who as a toxicologist, is outranked by none, tells us in his book on "Practical Toxicology," that "for us no substances are 'poisons in themselves,' and that it is only when the particulars are known that we are able to say, in any given case, whether the substance involved can be classed as a poison or not." (P. 3.) On the next page, he tells us that "All poisons, even the most powerful, may be given in doses so small as to have *no toxic action.* Starting from this *innocuous* amount and gradually increasing it, we reach first the medicinal dose, viz.; a quantity which under certain conditions, has a beneficial action upon the sick." The fact is that no substance, however deadly it may be in an overdose, is in the slightest degree injurious if the dose is small enough. The poisonousness of every substance is a function of its dose, belongs to that dose and has no earthly existence outside that dose. If this were not true such a thing as living on this earth would be impossible. Throughout eons of ages living things have been incessantly subject, without a single moment's intermission, to the action of substances that in increased amounts would have killed them. Our food, our water, the very air we breathe is laden with substances that are deadly poisons, if taken in toxic amounts. Our own bodies are so constructed that substances necessary to life and health would kill with the utmost promptitude if suddenly introduced unchanged to another part of our body than that in which they are normally found. That which would be a poison to the organism if injected into the blood would act as a food if introduced into the stomach. Wholesome food, by the very act of digestion, is converted into substances that are highly toxic. Toxic substances, by the same act of digestion, are converted into substances that are perfectly harmless. Substances that are injurious or even deadly to one form of life constitute the food of another form. Even among human beings there are people so constituted that certain kinds of food that nourish most people will make them violently ill. The toxins of every form of disease are but forms of albumin and by digestion can be changed into life-giving peptones to nourish our bodies. They are products made from food stuffs by germs and are convertible back into food stuffs again. The deadly abrin, of Abrus precatorious, is digestible into peptone as is also the ricin of the seed of Ricinus communis, and the venom of the snake. Toxic substances, in comparison with which corrosive sublimate or arsenic are mild, turn out to be kindred chemicals to the basic substances of our own bodies, and that by the magic of metabolism are reconvertible into wholesome foods. Prof. Brunton, in his Lectures on the Action of Medicines, tells us that: "We now know that the juices of various glands when injected directly into the blood will cause coagulation and will kill an animal as quickly as a rifle bullet, yet these same juices when they enter the blood from the glands in the normal way, not too much at one time, tend to preserve the balance of the body and to prevent disease." (P. 51.) Medical research is rapidly showing us that our bodies contain a multitude of ferments or enzymes, by which the successive steps in the digestion and assimilation of food are possible. They exist in the mouth, in the stomach, in the intestines, in the various glands and organs of our bodies and in the blood. Allbutt, in his System of Medicine, tells us that: "In the case of enzymes, such as pepsin and invertin, we must carefully distinguish between their fermentative and toxic actions. When injected into the animal body they produce rise of temperature, general disturbances and death, acting not by means of fermentation, but of direct poisons." (Vol. I, p. 526.) Oppenheimer, in his work on "Ferments and Their Actions," tells us that "Pepsin, rennet, invertase, diastase, emulsin and myrosin, all had a toxic action." (P. 66.) We learn from a recent number of *Science* that "The injection of bile can cause tetanus as well as coma." (April 14, 1905, p. 582.) Brunton, in his "Lectures on the Action of Medicines," tells us that: "The saliva in some men is almost as poisonous as the venom of a serpent." (P. 53). Every student of physiology is taught that potassium sulpho-cyanide is a normal constituent of human saliva and is even found in milk and urine. Much speculation has been pursued as to the meaning of the presence of this poison in these secretions. Pfluger and Foster, two of the most renowned physiologists in the world, think that the principal properties of living protoplasm are due to the presence therein of the highly poisonous radical of prussic acid and that the presence of the sulpho-cyanides in saliva, milk and urine in varying and changeable proportions are but the overflow of the cyanogen radical common to all living proteid. If they are correct, (and where will we find higher authority?) then the very foundations of our being are laid amid the most deadly of poisons. In every human body there is always present almost as vast a collection of poisons as is found in the average poison-case of a city drug store. Some of them, too, like the phosphorus of the bones and blood, or the hydrochloric acid of the stomach, are the identical substances found in such closets and that are never sold to customers without the characteristic skull and cross bones on the labels that accompany them. Even as dangerous a one as arsenic is now known to be a normal constituent of our bodies and constantly present in the food we eat and the water we drink.

In view of facts like these is not the present hysterical toxiphobia, that has become so common as to be considered a veritable epidemic, in reality a senseless craze? Does the administration of poisons as medicines injure the public? If they are poisons *per se* there can be no questioning the verdict and medical practice stands impeached as a huge blunder and an inexcusable crime. If a poison is a poison in any dose and is only less poisonous in proportion to its reduction in dose then the practice of giving drugs is wholly wrong. On the other hand if a poison is only poisonous within a certain limit of its power, beneficial by stimulation within another limit, and wholly inappreciable in its effects under still greater dilution, then there is profound wisdom in the giving of drugs to the ailing. The latest researches in chemistry have taught us that the toxicity of every substance is due to a certain electrification of its ions. Like other physical forces the behavior toward the living body is never that of merely lessening injury with lessening dose. The behavior of the ions is more like the behavior of heat. At the point of great power heat is deadly. It destroys and rends the tissues. At a point of lower power it stimulates the tissues to increased activtiy. At a still lower point it forms the normal condition of life. Its total absence would mean death. It is highly probable that the electric charges of the ions behave in a somewhat similar manner. In too great power destruction results. In a lowered power stimulation occurs. In a still lower power the condition of normal being is found. In the total absence life would be impossible. It is thus seen that death hedges in life at both extremes. Human physiology has not advanced us as far in knowledge of this kind as plant physiology has, and for obvious reasons. The verdict of plant physiology in regard to poisons is very emphatic. No one objects to experiments upon plants with poisons. Pfeiffer, in his "Physiology of Plants" tells us that "Small doses *of the most varied poisons* increase growth, respiration, and the production of heat." (Ewart's translation, Vol. I, p. 264.) On the same page we are told that "when sufficiently attenuated a poison may induce reactions which are either innocuous or even of use to the protoplasm. This stimulating action of poisons is of equal importance to their fatally injurious effect when sufficiently concentrated." Frank and Krueger have shown that "if potato plants are properly supplied with copper the plants are hardier, yield a larger crop, and live longer than they otherwise would." (*Amer. Jour. of Pharmacy*, June, 1905, p. 270). If we can judge from the moderate use of tobacco by human beings we might conclude that poisons, when not used in quantities sufficient to constitute an abuse, are not injurious. The late Prof. Huxley said: "There is no more harm in a pipe than there is in a cup of tea. You may poison yourself by drinking too much tea or kill yourself by eating too many beefsteaks." Some of those who have lived beyond the century mark have been constant users of tobacco. When we consider the countless millions who are constant users of tea, coffee, chocolate, and other such beverages, we find no evidence of the moderate use of poisonous substances doing any harm. The active principle of coffee when injected subcutaneously produces symptoms like those of strychnine, yet Cushny informs us that in small doses "the only effects to be observed are a brightening of the intellectual faculties and an increased capacity for mental and physical work." (*Pharmacol. and Therapeut.*, 3rd ed., p. 246.) Alcohol in some form is used by nearly every race and people with not the slightest signs of injury except when consumed in amounts transcending simple stimulation.

Deplorable as is the public scepticism toward drugs it is by no means as bad as when manifested by members of the medical profession. It seems scarcely credible that they should entertain views very much of a piece with those held by the illiterate public. What is, perhaps, still more deplorable is the complete unconsciousness shown by them as to the illogicality of their position. When a physician who is at the head of a department of health can, officially, publish the following expression of opinion it forces us to judge leniently of the mental idiosyncrasies of the masses: "Self-destruction is the final result of all these unnatural ingredients introduced into the human economy. If in large doses death is immediate and self-apparent, while in small doses death is delayed, but if not in existing generations an immediate result then in the generations to come it figures as a remote result." What a horrible impeachment of medical science this would be if true. He was writing of some of the mildest of medicinal substances, of substances that nature has put into fruit and other foods, of substances that multitudes have been using generation after generation for millenniums of time, of substances that medical men administer constantly in amounts a hundred fold more than was being used in the way he sought to condemn. What he says about the generations to come is rich indeed and it would be exceedingly interesting to discover where he got any evidence on the matter. This medical man evidently does not know that there is not a single drug of the materia medica that need do the slightest particle of harm to the most delicate human being. He seems to be imbued with that pernicious, but unfortunately popular superstition, that looks upon drugs as toxic *per se*. He imagines that any dose, however minute, of a toxic substance must injure the system in proportion to the amount imbibed. It has never occurred to him that every substance can injure and every substance can benefit in proportion to its dosage. He has never stopped to consider the fact that one of the most distinct peculiarities of protoplasm is its power of gaining added resisting power to every form of energy that is near to a point that could injure it. As a practicing physician he fails to see that his own belief cuts the foundation from under him and would make of him a criminal, if it was true. If mild drugs are the dangerous things that some medical men seem to consider them then they are taking a terrible responsibility in prescribing them. To claim this is to make the use of really potent drugs reprehensible in the extreme. They may try to soothe their consciences with the belief that while beneficial to the ailing they are injurious to the well. Where, however, is there the slightest evidence of so irrational a proposition. Are the laws of nature suspended during illness so that poison, in their sense of the word poison, ceases to be such, for the benefit of the ailing? In a high fever it may take more cold to harm a patient than would harm a well person but the action of the cold is precisely the same toward both. The dose is altered by the peculiar conditions. In the same sense it may take more or less of a given poison to affect a sick than a well person but the action will be the same in kind in both instances. Conditions have altered the dose. The overheated body, in health, feels the soothing influence of properly adjusted cold as much as does the fever-racked patient. The stimulating and strengthening action of cold is likewise alike to both. Any person who entertains the opinion that certain kinds of substances are inherently destructive in all doses have an xeceedingly narrow conception of the world and its contents. He can have no notion of the continuity of things or of those grand laws that bind the universe in organic unity. It never occurs to such a one that foods, medicines and poisons possess no lines of demarcation that can enable us to say with unerring certainty which is which. Between water and the most deadly poison known there is nothing can be found but that has the power to injure the body in some degree by abuse. An excess of any single food principle will bring derangement and toxic symptoms. An excess of inert water will do the same. An excess of salt will kill. The oxygen of the air, which makes breathing and life possible, only needs to be forced into the circulation in double the normal supply to render death certain. As we have already pointed out the enzymes by whose aid digestion of food is possible and without which assimilation could not occur are all found to be poisons. Without poisons life, as we know it, could not possibly exist on our planet. How preposterous then becomes the claim that because a substance is toxic in some degree that it must therefore be avoided. There is scarcely a single article we eat that does not contain substances every whit as toxic as the substances which the gentleman we have quoted condemned so strongly. Every particle of fruit we eat, every spice we partake of, all the vinegar we consume contain substances that are equal and some of them superior in poisonousness. Sanitary progress is hampered at every turn by the fear that is engendered by superstition. The plague could not be stopped at Bombay because educated Parsees object to both cremation and burial. Filth diseases of various kinds are scattered by the Pilgrims to Mecca but no one dares to challenge the beliefs of the Mohammedans. Educated men in our own country object to the use of sulphate of copper for purifying typhoid polluted water because of their superstitious fear of the effects of this mildly toxic substance. They cannot get out of their minds the belief that a poison is a poison whatever the dose. Hundreds whose lives might be saved are sacrified to this unfounded notion which everybody's experience is daily and hourly proving to be false. In spite of the proof to the contrary the superstition clings. Facts make no impression on minds wed to antiquated notions. In Allbutt's "System of Medicine," Prof. Allbutt, himself, tells us that, "As an industrial disease poisoning is practically unknown in the copper works on Tyneside; nor does occupation in the copper works appreciably influence any disease that the individual may subsequently suffer from. Occasionally a metallic taste in the mouth and colic are complained of." Again he tells us of a European village where, "for the last four hundred years has this industry been carried on there; sons succeeding their fathers, so that an ancestral integrity has been established. In spite of their long hours of toil in an unhealthy atmosphere, of green lines on their teeth, and green hair, the men, though not robust, are healthy, the average age at death being 60. Not only is the metal found in their secretions, but long after death their bones when raked up are green." (Vol. III, p. 937.) How supremely ridiculous American toxiphobia would appear to be to those people so far as its application to copper is concerned. In a recent number of *Science,* Dr. Geo. T. Moore says: "Strange as it may seem, there does not exist an authentic case of copper poisoning either in this country or abroad. At the congress at Brussels, where this subject was discussed for more than six months and which was attended by the strongest opponents of copper there was not a single instance of copper poisoning which could be brought forward that would stand the scrutiny of the congress." (April 21, 1905, p. 622.) Why then are so many people bitterly opposed to the use of minute amounts of copper in the public water supplies when it is an established fact that in almost infinitesimal amounts it can kill typhoid germs and save whole communities from the ravages of typhoid fever? There is but one explanation. The superstition that a substance that is at all poisonous is poisonous in a degree proportionate to its quantity and that the repeated ill effects of a multitude of doses multiply themselves not only in the individual that takes them but in his progeny. It is the ingrained effect of this same superstition that is driving thousands into Christian Science and other equally ridiculous fads. Any man, who believes such an idea concerning poisonous substances and at the same time clings to rational therapeutics, is simply inconsistent with himself. The logic of his belief must sooner or later force him to become a Christian Scientist, or other faith curist, unless there is intellectual stasis in that side of the mind. To be consistent he must give up all belief in treatment with drugs. Until he does so permanent belligerency must continue to exist between two parts of his own brain. "But," some one observes, "is there not both chronic and acute poisoning of individuals through the taking of poisonous substances?" Most certainly there is, but why confuse these with the effects of sub-pathological, or even sub-physiological doses? If a drunkard gives himself a cirrhosed liver it does not follow that a man who takes a dram of alcohol every day of his natural life would in time do the same. It is not yet proven, though very probable, that our own food is incessantly supplying our systems with a daily small amount of alcohol. People never get cirrhosed liver, or any other sign of chronic alcoholism, who use alcohol in amounts that do not stir up a feeling of incipient intoxication. There is no chronic poisoning from any drug of any kind where there are no symptoms of continued acute poisoning. All cases of chronic poisoning are cases of repeated slight injuries of some organ from acute poisonings that fell short of a fatal result. Let one have a continuous series of acute poisonings, with the distinct feeling attached to each that they have been affected seriously by the poison, and there will be a case of chronic poisoning. No one can ever be chronically poisoned with quantities of a substance that produce no deleterious symptoms. Nor can they be chronically poisoned by one or two slight attacks of toxic feeling. There must be a multiplication of such experiences. The facts of physiology show that protoplasm reacts favorably, not unfavorably, to every force that is below the point of power to injure. While we have not the evidence of experiment on all poisons we have on enough to know that the universal effect of slight stimulation is always beneficial. Over-stimulation verges on danger. Forces that are below the point of stimulation are indifferent and do not seriously affect the body either one way or the other. They only take part in the general co-operation of physiological forces that are our normal life. Viewed thus and we at once see that what, by the perversion of facts, has come to be the logical basis of therapeutic scepticism should in truth be the soundest base of therapeutic faith. Substances that in one dose kill in still another dose cure. The dual effects of drugs run through and through their composition. Not only will morphine constipate as a first effect and produce diarrhea as a second effect, but it will give one a feeling of well-being in minute amounts and bring dissolution in large amounts. The quicker, therefore, that the medical profession throws off the unfounded fear that copper in drinking water, alum in baking powder, coloring matter in candy, salicylic acid in catsup, boric acid in cream, or minute amounts of preservatives of various kinds in food is going to do any person any harm, the sooner will the public stop thinking that medicines of every kind, being poisonous, must be injurious not only to themselves but to their unborn children.

SLUM OR EDEN?

BY GEORGE B. H. SWAYZE, M.D., PHILADELPHIA.

TO find a slum it is not always necessary to penetrate into degraded parts of large cities. A nest of overcrowded, slovenly, disease-breeding households and their polluted adjunct localities anywhere, that have become plague-spots to the surrounding population because of dissipation, grime and squalor is a slum.

Whether any inhabited location shall be an Eden of health and morality, or a slum of mangy infections and brutality depends on the proclivities of the owners and tenants. Evil and improvidence are expensive. It involves immense and wasteful cost to borough or county, city or state,—to generous-hearted charity and to frugal-handed taxpayers, to meet with cash the continuous drain of treasure resulting from slum existence. It would be supremely cheaper and better if special gifts and appropriations were made to banish all slums from endangered locations by the purchase of their sites, to tear down their degraded habitations, fill up infectious cellars and privies with fresh earth, transform areas of effluvium and distempers into sanatory breathing places and parks, and vest these forever to the care and control of the local government for the perpetual defence of the people.

The idle and shiftless who shirk from frugal toil and passively sit in the morbid dreams of poverty; the dissolute and vicious who freeboot the unwary and the defenseless by cunning, by stealth or brute violence, these constitute a complex atavistic class that naturally gravitate to meaner quarters or to slums, and systematically absorb all that they can glean from benevolence and the public treasury in the way of personal profit and support.

It is the nature and policy of this grade of people to complacently depend on organized public charities in the emergencies of need, sickness and infirmities. They encumber the hospitals with their diseases, fill up infirmaries and homes for the indigent on appeal, or drift into the shelter of reformatories and prisons as a reward for misdemeanors and crimes—in either case obtaining at public expense better homes than they left behind—in most cases consuming and therefore wasting honest fruits of the toil and economy of the industrious and frugal who are taxed to maintain these increasing institutions.

Munificent provision for the sustenance of the chronic indolent and thriftless, for dispensary service and hospital care of the incessant cachexias and contagions from the slum quarters and districts, deplorably tend to pauperize yet more the multitudes who are disposed to stoically drift along with indifferent ease of mind and body, rather than honorably strive to advance their fortunes and morals by self-supporting toil. Slums usually nest in the midst of surrounding population, they constitute centres of despoiled air which diffuses its poisons to adjacent communities, else the hazard from their taint and fester would be greatly reduced. Enlarging the benevolent donations, multiplying the state appropriations of public money for dispensaries and hospitals will never sponge out from the community or state the blot of slums, never reduce their mistaken growth nor arrest the propagation of their dieases and vices.

In Pennsylvania, as in other commonwealths, the benevolence and taxation in the line of charity are overdoing their true province of helpfulness by pauperizing the thriftless and demoralizing the profligate. The gifts of philanthropists have run too much in the direction of foster-charity. Casting good seed into slums is like sowing wheat upon mud and rocks. Reform and relief for slums naturally last but for the length of the day; relapse follows the setting of the sun. The leopard does not change his spots nor the skunk renounce his stench. Preaching the Gospel to habitués of slums never abrogates natural proclivity or numbers. No Board of Health can purify a slum or suppress its degenerate malaria by a summer-day visit with whitewash brush and routine orders to "clean up." Nothing can clean up a slum except its complete extinction.

The filth and degradation, the hardened bestial senses, the instinct for crime and brutality engendered by slums make them physical, moral, mortal siroccos to the entire community. Their narrow courts and gutters are the rife avenues of fetid poisoned air; their doors open to repositories of rancid dirtiness, congestions of domestic chaos, hard-faced character. Their chambers wanton with barbarian indecency without the veil of remorse or shame; their social morale is the natural forcing school for low thieves, thugs, toughs, pickpockets, assaulters of women, bawdy prostitution—a class of criminality with which our courts and prisons are constantly encumbered.

The Old World has systematically utilized American cities as a dumping ground for refuse population, especially including pauper and degenerate classes that flock here and home themselves at convenience in our hospitals, infirmaries and other charities, even in comfortable reformatories and prisons, maintained at public expense. These are classes of people that naturally develop slums wherever they locate, breed rot and riot in the midst of our civilization, create plague-spots of malaria, sloth, slovenliness and brutality where we should have Edens of peace, pure air and roses. Our own city and state, other cities and commonwealths undoubtedly are consuming exorbitant sums of money for benevolent institutions, for enlarging and multiplying hospitals that are immediately made use of to their limits by the improvident and unlucky, and also by the selfish well-to-do poachers on public conveniences, thus altogether controverting the taxes and gifts of the frugal into demoralizing bounties that pauperize the public increasingly, in the name and garb of charity. Whenever the commonwealth begins to nurse and foster the diseases and dependents among shiftless people less, and practically applies endeavor and money to secure healthful breathing air and moral soundness in polluting localities instead, then the greater and truer charity will be attained for the permanent advantages of all.

The more aggressive slum districts in Philadelphia have developed in the midst of the multitudes in the heart of the older parts of the city. But there are lesser slum localities in every considerable city and town in America. European countries reek with slums. But of what real gain over local sources of disease and demoralization is the common expenditure of money for the maintenance of hospitals and free dispensary service, while the festering locations of contamination remain dominant? It is humane, right and righteous to extend gratuities to self-respecting people who have been overtaken by undeserved adversities through loss of legitimate support and necessary health, accidents and impoverished financial reverses,—to help those who strive to help themselves in honest ways.

But in the interests of public hygiene and social order slums should be displaced by public squares and open-air areas among the surrounding laboring and business classes, whose health and availability are of highest importance. Money appropriated toward this sanatory transformation must directly obviate the encroaching needs for costly charities and hospitals, would enhance the comfort and prosperity of the industrious, defend the earnings and savings of bread-winners from loss through prejudiced health and rigid taxation, would elevate beneficent donations and assessments for the public welfare to their highest and most substantial plane of usefulness. The demoralized slum element everywhere should be displaced by the legal condemnation and sanatory pre-emption of their degraded quarters; should be compelled to "move on" and out into the open country, or disperse, or raise itself to a sphere of respectable livelihood and home-keeping which would make of this class a better and happier people.

Energy exercised in the development of self-help is always superior to the passive dependence on the helping hands of others. On the "Future of the Red Man," in the *Forum,* Simon Pokagon, a full-blooded Indian, last chief of the Potawatomie band, questioned the wisdom of our national government in adopting the "ration system under which the Indians are fed on reservations." In his intelligent view the government should provide the Indians with something to do, even if it should fail at first to be self-supporting, the aim being to develop habits of industry and respectable comfort. On a similar principle, instead of endlessly appropriating vast sums to maintain hospitals and other charities wherein slums may empty their incessantly diseased, their dissipated and slothful, for regulation rations and care, it would be truer wisdom to invest half the money in the purchase and equipment of land and other industrial plants, where the slum element, tramps, mendicants, homeless idlers, vagabonds, could be colonized under systematic management, to work their way to better habits, sanitary states of health and morals, more respectable and worthy expectations.

Multiplying free accommodations for the care of the "indigent and needy," only tends to multiply the number of voluntary dependents eager to fill up these benevolent institutions and share their gratuities—so the second state is no better than the first, *ad infinitum.* Voluntary pauperism is a step in the giant stride to the socialism and communism that have grown envious of the fruits of others' prosperity. Among certain classes the ambition to work for a livelihood is declining while the ambition to share the livelihood of others is correspondingly pronounced. Labor is daily growing more capricious and reluctant as the army of beneficiaries and deadheads grows larger.

Moreover, hospitals and charity corporations are becoming clamorous monopolies, not only absorbing immense gifts and bequests, but consuming large funds derived from the state by political pull on legislators, asking for princely appropriations with which to fatten pecuniary interests and to expand the popular prestige of their respective institutions. Furthermore, through these means, these expanding hospitals and their favored staffs steadily draw into their seines a drift of well-to-do patrons, some free and some fully remunerative, who, on principles of right and fairness, should contribute their patronage to worthy private medical practitioners for their deserved encouragement and support. If hospital staffs and corporations are allowed to monopolize medical and surgical practice throughout this country, where every qualified citizen is entitled to equal rights to earn an honorable livelihood, let it be upon a basis of merit instead of buncombed sentiment and legislative partiality. The incomes from medical practice in general are shrinking yearly, so that the profession finds it severely more difficult to maintain even liberal livelihood than in former years, before the abuse of dispensary and hospital service indoor and outdoor had grown so enormous. It manifestly savors of fraud and injustice for the state to appropriate large sums of the people's taxes for the elaborate maintenance of monopolies, conducted under the name and garb of "sweet charity," that in reality put into the hands of a few hospital attaches the power and accommodations to severely curtail the patronage and livelihood of the great rank and file of medical practitioners.

Prof. Wilson, of Jefferson College Hospital staff, is reported as saying: "It is a notorious fact that very many people who are abundantly able to pay for medical relief go to public dispensaries and obtain treatment free of charge. The result is detrimental to the best interests of the public in the facts that these people are willing to personate themselves as paupers for free medical attendance, and that it deprives medical men, particularly young medical men, of their legitimate sources of income."

As a natural result of the cheapening demoralization of free hospital dispensary competition, the public has been trained to consider the medical profession with lessened appreciation. In the important matter of adequate fees, a large proportion of competent private physicians are under the necessity of rendering their professional services at such barely nominal charges as to impress upon themselves and guild the unwelcome stamp of relative poverty, where the comforts and consolations of thrift are fully merited as a reasonable compensation for heroic life-work.

It is true that valuable hospitals are conducted in connection with medical colleges; but the number of patients who flock to these for free services always greatly exceeds what can be utilized for the instruction of students. There is always ample reason for a medical college to have its own hospital, but it is daily more evident that there should be reasonable limitations to the extension of their monopoly outside. Six medical college hospitals and twenty other hospitals in Philadelphia have recently obtained their annual grants of state money to reinforce their luxuriant support. My interest in some analysis of these proteges of public and private beneficence has led me to visit some of them. Whether coming from slum or hovel, accepted patients become grandees from the moment they gain admittance to the excellent and often elegant appointments. Having ambitiously secured a popular draft on the public funds, hospital corporations and staffs are easily enabled to outdo the general practitioner in reaching and obtaining also a clientele of good-pay patients for whom hospitals were not professedly designed, though often privately planned as enterprises for profits under the guise of charity and need. Contemplating the rate at which hospitals have cropped out into incorporated operation these later years, it would seem as though hospital syndicates or hospital promoters have gotten into vogue for the disguised object of investment and dividends, wrought out of contributions from charitable people whose sympathies are reached and legislative appropriations obtained through political practice.

After eliminating the classes of persons able to make more or less compensation for their medical services, there always yet remain an abundance of cases among the actually poor for the instruction of the few hundred medical graduates annually—"for the poor ye have always." While slum tenements are continued for the crowding of degraded humanity into sub-basements and attic stories, there will continue the tidal flow of poverty and suffering to the dispensary and hospital for free treatment. It is the perverting policy of augmenting to all possible extent the numbers of the pauper personating class, by powerful hospital corporations, that debars private practitioners, after graduation, from adequate opportunities for obtaining the necessary patronage to which they may devote earnest study and thus also earn the encouraging rewards of talent well applied and duty well done. Medical teaching, medical books, expensive courses of study and medical diplomas, pharmaceutical products, surgical instruments and appliances all have very limited value to physicians unless they have medical practice and a fair chance to profitably pursue its offices and honors. Work that sustains slums with enlarging gratuities, catering to expanding slum needs, encouraging slum imitators by the demoralizations of unlimited indoor and outdoor service is withal not an exalting accomplishment. It powerfully tends to dispel the moral sense of personal responsibility and rolls backwards the wheels of social integrity and progress.

Without resort to deduction, it is a question of the hour, and needs to be understood that the diseased, the thriftless, and vicious elements pertaining to slum spheres not only beget hospitals, infirmaries and reformatories, but through the maintenance of these there is involved perpetuity of increasing expenses and injustice bearing adversely upon all classes of good citizens. Medical service in aid of the poor is made the shibboleth of the *raison d'etre* for establishing hospitals. But by the systematic abuse of hospital purpose, the lesser evil becomes the greater in augmented costs, pauperization of the public, development of dispensary monopoly in medical practice, and corresponding repression of the legitimate work and livelihood of general practitioners. If a quarter part of the money consumed and lost in the maintenance of these free institutions of free help and free medical treatment was practically applied in transforming infectious slum areas everywhere into hygienic Edens, the slum element steadily displaced and dispersed, hospital services honestly limited to the actual needy and unfortunate, then one-half of the hospitals that now eagerly clamor for state funds and private bequests might close their doors and retire their staffs, while the other half could comfortably moderate the expense of their existence to such a degree that legacies and state aid could be largely utilized for the promotion of more substantial and more enduring benefits for the whole people. Shall slums be diminished and Edens increased in our country?

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Dr. A. Rose, of New York, (*St. Louis Medical Review*, June 24 and July 1), has important articles on "Onomatology," which will be found of value to those interested in this subject. Dr. Rose is doing yeoman service in this direction.

THE VALUE OF THE MICROSCOPE IN DIAGNOSING LESIONS OF THE KIDNEY.

BY HENRY TAYLOR, M.D.

Part I.

THERE is no situation in medicine in which the microscope is of greater value than in urinary analysis. Few physicians will deny this fact, yet not many rely upon it in the diagnosis. The majority of physicians are content to find albumin and casts, so that with them microscopical diagnosis is of secondary value.

Yet no diseases present greater confusion than so-called "Bright's" in its various forms and this confusion of classification tends to confuse the diagnostician. We will be able to keep matters clear in our minds if we remember the anatomy of the kidney; it is a compound tubular gland consisting of connective tissue which carries the blood vessels and epithelium. Such an organ being "interstitial" in character when it affects the epiparts so that an inflammation here is apt to be diffused right from its origin. The varieties depend largely on the degree with which each tissue is involved. Inflammation primarily begins in the connective tissue, being "interstitial" in character when it affects the epithelium it is "parenchymatous," the name depending on which changes are the more pronounced. Yet both forms of inflammation generally exist in each case. In consequence, many authorities divide primary inflammation of the kidney into three kinds—catarrhal, croupous, and suppurative, which for clinical purposes is better and clearer. In catarrhal (interstitial) nephritis the changes consist of edematous swelling and inflammatory infiltration of the connective tissue; swelling and granular cloudiness of the epithelium lining the tubules with its subsequent desquamation, with the production of pus-corpuscles in consequence. The blood vessels are distended with blood corpuscles while in the chronic form a new connective tissue forms which produces shrinkage or cirrhosis.

In croupous (parenchymatous) inflammation, the surface becomes partially or completely stripped of its epithelium, a albuminous or fibrinous exudate forming upon the surface, and there is considerable hyperemia of the blood vessels, with swelling and inflammatory infiltration of the connective tissue. The casts originate from a degeneration of the tubular epithelium and a coalescence of epithelia thus degenerated; this form may end either in hypertrophy of the kidney, due to an increase in the interstitial connective tissue, or in atrophy of circumscribed portions of the kidney, with more or less destruction of the epithelial tissue. The most intense variety of inflammation of the kidney (suppurative), which is similar to an abscess in other organs, has been considered to be a purely interstitial inflammation, from the belief that pus-corpuscles could only be formed from connective-tissue cells, but this is erroneous, and there is no doubt that the epithelia take an active part in the formation of pus. The blood vessels in the suppurative form soon become eliminated. When albumen is found, many physicians at once diagnose a nephritis, without any microscopical examination of the sediment; this is wrong for, not only may albumen, even in large quantities, be present without any pathological changes in the urinary organs, as, for instance, in the so-called "functional or essential albuminuria," but inflammation in other organs, as, the bladder or prostate gland, where pus-corpuscles are found in the urine, will produce albumen; when the kidney may be perfectly healthy. The diagnosis of a nephritis should, therefore, never be made without the characteristic features of such an inflammation being present in the sediment; in fact, a diagnosis of any inflammation in the genito-urinary organs can never be made without the presence of pus-corpuscles in the urine; derived to a great degree from the epithelia themselves, the protoplasm of which becomes changed by endogenous new formation to inflammatory corpuscles, which later reach the surface of the epithelia and are carried along by the urine as pus-corpuscles; these pus-corpuscles invariably permit a diagnosis. Pus-corpuscles are granular, the nature of this granulation varying with the constitution of the individual; for example, coarsely granular, refractive, homogeneous corpuscles, without nuclei, show a first-class constitution; the more numerous these are the better is the constitution, for the coarse granulation is due to a large amount of living matter, and the less living matter present, the finer will be the granulation, and, therefore, the poorer the condition. Small granular pus-corpuscles, with one or more pale nuclei, indicate a broken-down condition. Now, should the different varieties of granulation, from the coarsely granular down to the very finely granular, be found, the conclusion is inevitable that we had an originally good constitution, weakened by disease. Shortly before death the pus-corpuscles break down completely, changing to granular, irregular masses. These facts will be found to be of invaluable aid in the prognosis of a given case, but care must be taken not to confound mucous corpuscles, which are always pale and finely granular, present in normal urine, with pus-corpuscles; for mucous corpuscles are normal products of the epithelia, and vary considerably in size and shape; they are useless in diagnosis excepting to recognize in their true value.

Catarrhal (interstitial or desquamative) nephritis, the mildest and most common form, may escape detection for years; here the microscopical examination of urine, made with a view of detecting other affections, will often lead to a diagnosis long before the clinical symptoms appear. For the examination of urine a power of four hundred and fifty or five hundred diameters should be used; a lower magnifying power being uncertain and a higher power not required. Pus-corpuscles in a urine, show that an inflammation exists somewhere in the genito-urinary tract, and the character of this inflammation can only be diagnosed by the epithelia; pus-corpuscles should be always taken as the standard from which the nature of the epithelia is judged, since these pus-corpuscles vary to a moderate degree in every case, being comparatively small in one case and comparatively large in another; thus kidney epithelia, the most important of all the epithelia in urine, are one-third larger than pus-corpuscles, so, if, with pus-corpuscles, a number of cuboidal bodies, one-third larger exist the diagnosis of a nephritis is plain, since these bodies are the kidney epithelia from the convoluted and narrow tubules. In rarer, and usually more severe, cases small columnar epithelia from the straight collecting tubules are found. Remember that kidney epithelia are never present in normal urine, but should not be diagnosed unless seen in moderate numbers, and associated with pus-corpuscles; it is their size which is the means of their identification, the presence or absence of a nucleus having no significance; casts are, generally, entirely absent in such cases, and if present are found in extremely small numbers, and then only hyaline in character.

Catarrhal nephritis, acute, subacute, or chronic, can generally be diagnosed by the microscopical features. The presence of red blood corpuscles is the most important feature, for these will be seen in larger numbers only in an acute inflammation; the more red blood corpuscles, pus-corpuscles, and kidney epithelia present, the severer the case and the more certainty of an acute attack, while in chronic nephritis, red blood-globules are either entirely absent or present in very small numbers. Here, in chronic cases, are a varying number of small, glistening, highly refractive granules, partly lying free in smaller or larger groups, partly in the interior of pus-corpuscles and epithelia; these fat-globules or granules denote chronicity or commencing fatty degeneration. The presence of rust-brown needles or plates—crystals of hematoidin—is valuable aid to diagnosis; when conglomerated in variously sized masses, they usually lie free; when present in small size, they are often found in the pus-corpuscles and epithelia, denoting a previously existing hemorrhage, showing that the pathological process is not acute.

The diagnosis of subacute inflammations combine some features of both the acute and the chronic form—that is, a few red blood-globules, a few fat granules and globules, with a moderately good condition in the patient.

Sometimes in a nephritis larger pear-shaped, more irregular or globular epithelia from the pelvis of the kidney are found giving us the diagnosis of a pyelonephritis, and almost invariably still larger epithelia from the middle layers of the bladder, showing a catarrhal cystitis; in some cases in which a pronounced chronic nephritis is undoubtedly present, a large amount of salts, especially uric acid or phosphate, is found. As a badly diseased kidney can never void salts, probably only one kidney is affected.

The result of chronic catarrhal nephritis is always a shrinkage, a cirrhosis of the kidney, or the so-called "hobnail kidney"; a large amount of urine, with a continuously low specific gravity (1012, or less), absence of all salts, a small amount of albumen, pus-corpuscles, kidney epithelia, fat-globules, and a broken-down constitution, with small shreds of connective tissue found under the microscope. Here we may say that connective-tissue shreds are among the most important of all features found in urine, being quite common, and always seen in severer and more deeply-seated pathological processes, such as severe inflammation, cirrhosis, hemorrhage, traumata, atrophy, suppuration, and ulceration. When in a severe inflammatory process, epithelia are shed in large numbers, a certain amount of the surrounding connective tissue must be cast off in the urine in shreds of various sizes, and the severer the process, the more numerous and larger the shreds. Again, care must be taken not to mistake them for mucous shreds, which are paler, less refractive, and more regular. Connective tissue consists of bundles of varying sizes, fibrillary, and frequently finely granular.

Renal tuberculosis generally presents the symptoms of severe catarrhal nephritis, with a varying number of connective-tissue shreds, and with this the constitution is broken down, especially when tuberculosis exists in other parts of the body, so that a bacteriological examination for tubercle bacilli must always be enforced.

In croupous (parenchymatous) inflammation — a more serious process than the first—the amount of albumen is considerable, and under the microscope are seen casts with the pus-corpuscles and kidney epithelia; in acute cases, blood-corpuscles are present in large numbers, sometimes justifying the diagnosis of a renal hemorrhage. The number of casts corresponds to the intensity of the inflammation, being most numerous in severe acute cases; the casts being in three distinct sizes according as to whether they come from the convoluted, narrow, or straight collecting tubules. Should the smallest variety of casts coming from the narrow tubules alone be found, the inflammation is comparatively mild, but if all three varieties are found, the largest coming from the straight collecting tubules, the process is serious. Remember that there are six varieties of casts, hyaline, epithelial, blood, granular, fatty, and waxy; the presence of these casts determines definitely the acuteness or chronicity of the inflammation, hyaline, epithelia, and blood-casts being found only in acute conditions, while granular, fatty, and waxy casts are seen in chronic cases. Hyaline and epithelial casts are usually quite numerous in acute croupous nephritis, while the presence of blood-casts depends upon renal hemorrhage. The more active the hemorrhage, the more blood-casts are seen, and, therefore, the more intense the affection, but, in milder hemorrhages these casts are filled with characteristic red bood-corpuscles, and have only little color; in severe hemorrhages the casts are crowded with disintegrated blood-corpuscles of a characteristic rust-brown.

Disintegrated epithelial casts never occur in acute cases, although in children they may be found when the inflammation is only a few weeks old; but in adults, they appear only after the affection has existed for a long time. Fatty casts mean fatty degeneration; here are the casts filled with fat granules and globules; these granules and globules are found in the pus-corpuscles and kidney epithelia, as well as lying free. Waxy casts of characteristeric wavy, fluted contour and usually a yellowish color, with high refraction, denote a waxy degeneration of the kidney. The latter two varieties are secondary formations, but combinations of two, or even three, varieties are not rare, and blood-casts may be seen with epithelia, waxy casts filled with fat-globules, or granular casts with both fatty and waxy characters. Of course we must remember that in chronic nephritis both of the catarrhal and croupous variety, but especially in the latter, acute exacerbations may appear; then the features of both acuteness and chronicity are combined, and all six varieties of casts have been found in one specimen of urine. That these cases must be given a very doubtful prognosis is clear. A seventh variety of casts is described by some writers as "mucous casts," or "cylindroids,"—but these are accidental formations of mucous taking on the shape of a cast, and seen whenever mucous is present in the urine; easily differentiated from real casts by their pale, usually irregular outline and finely striated interior, and without pathological significance. Connective-tissue shreds can be found in croupous nephritis, in almost every case; small shreds only in the milder cases, large shreds in the severer forms; quite common in those acute cases which are accompanied by an acute hemorrhage, as well as in the chronic cases, in which a fatty or waxy degeneration has taken place. The outcome of a chronic croupous or parenchymatous nephritis is, first, the hypertrophy, and then the atrophy of the organ. The clinical features of atrophy are, a continuous low specific gravity (below 1012), large amount of albumen, absence of salts, pus-corpuscles, kidney epithelia, fat-gobules, and granular, fatty, or waxy casts, connective-tissue shreds, with a general break-down in health. In studying suppurative nephritis, abscess of the kidney, pyonephrosis, or surgical kidney, the most intense of all the inflammations of the kidney, we find either a number of small, disseminated foci of suppuration, or a large abscess, usually caused by staphylococci; here the microscopical features are the presence of an enormous number of pus-corpuscles, and many kidney epithelia, usually with a varying number of red blood-corpuscles, very numerous in acute abscesses; connective-tissue shreds are found, often in large numbers. Without such shreds, abscess of the kidney should never be diagnosed, since they alone show destruction of renal tissue. Epithelia from the pelvis of the kidney generally accompany the affection, and frequently casts are seen from a complicating croupous nephritis. If the abscess is acute, red blood-corpuscles are numerous; if chronic, they are scanty; but crystals of hematoidin, sometimes numerous and of large fat-globules, both in the kidney epithelia and pus-corpuscles, as well as lying free, are also numerous. Some authorities claim it is impossible to diagnose an abscess from the urine examination, yet such a diagnosis is comparatively easy if we remember the features enumerated above. An abscess need not burst; emigrated pus-corpuscles and the shedding of connective tissue are sufficient; in renal abscess epithelia, both from the convoluted and the straight collecting tubules, the latter often predominating, are frequently found. The number of pus-corpuscles seen must be large before diagnosis is justified. Abscess from the pelvis of the kidney is also common; here the predominating epithelia will be the characteristic pear-shaped epithelia from the pelvis, with a smaller number of kidney epithelia, the other features being similar to renal abscess. Abscesses not directly in the kidney substance, but pressing upon the kidney (perirenal abscesses), may also be diagnosed by peculiar changes which take place in the epithelia, consisting in the presence of a number of newly formed nuclei, or even pus-corpuscles, in the epithelia—so-called endogenous new formations, caused by the long-continued pressure from without.

Under this classification all varieties of renal inflammation are covered; it is true that other names than these may be used, but they are varieties of the above; inflammation of the glomeruli—the so-called "glomerulitis"—is described as a separate affection by some pathologists. It is not a separate disease, but always an accompanying feature of a nephritis, catarrhal or croupous. In the diagnosis of renal lesions come the anomalies of secretion; for example, there are persons who will pass large quantities of uric acid and oxalate of lime all their lives, suffering from lithemia and uric acid diathesis, while if oxalate of lime alone is voided in large quantities, it is an oxaluria. Such urine usually has a high specific gravity with many crystals and concretions of uric acid and oxalate of lime from the renal calyces and pelvis. Renal calculi frequently produce an inflammation of the pelvis of the kidney, a pyelitis, either slight in character, with an accompanying inflammation of the kidney, pyelonephritis, or severe, even causing abscesses of the pelvis and kidney, with all the symptoms of inflammation or suppuration, often producing a severe hemorrhage, the most frequent seat of hematuria being found in the pelvis of the kidney as a result of the concretions of uric acid or oxalate of lime. The microscopical examination of urine may lead to the diagnosis of a renal tumor even before the clinical symptoms are suspected. Extremely large and numerous shreds of connective tissue, with pus-corpuscles and kidney epithelia, may point to a tumor without any clinical symptoms at all. The variety of renal sarcoma is the small, round-celled; here, besides numerous pus-corpuscles and kidney epithelia, red blood-corpuscles are found in moderate numbers, and small globular bodies, larger than red blood-globules, but distinctly smaller than pus-corpuscles, without nuclei, coarsely granular, or almost homogeneous, and highly refractive. the "sarcoma-corpuscles." In contradistinction to these, the pus-corpuscles are here usually finely granular, often nucleated or vacuolated, with connective-tissue shreds present in large quantities.

RECENT PROGRESS IN THE TREATMENT OF SYPHILIS.

BY WM. H. LLOYD, M.D.

ONE of the saddest accidents that can occur is the infection of the physician with syphilis in the practice of his profession. It is of commoner occurrence than generally supposed for such cases rarely get into the medical papers, for example: Blaschko states that he has had occasion to observe twelve cases of syphilis in physicians during the last ten years, ten in Berlin alone. These cases are often hard to diagnose; when the primary sore occurs on the fingers, it is taken for a panaritium, but its slow course, its bluish infiltration and the depth of the lesion show its nature. Again it may be mistaken for Herpes on the finger, cadaver tubercle and soft chancre; but these present different symptoms, the first being preceded by neuralgia in the nerve involved and the entire process terminating in about ten days, while soft chancre rapidly heals under treatment. In some cases the syphilitic primary sore is very small and heals without a scar. The outbreak of general symptoms or the development of very large indolent buboes may be the first sign to attract attention; again the primary sore may be on the face. In another case a roseola broke out over the entire body without any premonitory signs of trouble, and not a single point of entry for the virus could be discovered on the patient, although he was a very careful and painstaking physician. The infection is often acquired during the extirpation of a bubo or some similar work; none have been referred to infection from an instrument which had recently been used on a syphilitic subject, although such a possibility should never be overlooked. The erosions at the base of the nails from excessive scrubbing may be the entering point; the danger from this source is particularly great in case of abortions or of premature births, so frequently occurring in syphilitic women. In one case infection was derived from dissection of a syphilitic cadaver shortly after death. It is well for every physician to remember the possibility that the patient before him may be a syphilitic especially where he has to use the knife or to make a manual examination. Blaschko believes that modern methods of cleaning the hands invite erosions and possible infection, and he thinks that too little importance is placed on cleaning the hands after operations, while they may suffer from the excessive scrubbing before. Cover carefully every wound and every crack; touch them with a 2 to 3 per cent. solution of silver and produce an impermeable covering of silver albuminate; then cover with a small scrap of adhesive plaster with collodion outside or, better still, a finger cot. Rubber gloves or cots for all gynecological examinations are excellent for both patients and physician. When infection has once occurred, silver nitrate and sublimate, even used at once, have proved ineffectual to abort the process; in such a case rinse the scratch copiously with water and then pour tincture of iodine into the wound. Possibly hydrogen dioxid might be effectual, or better still burn the spot with the actual cautery. Medical patients are apt to err on the side of excessive treatment for themselves and severe physical and psychical depression results in some instances. The existence of syphilis need not interfere with the subject's professional work under certain obvious restrictions as, for instance, when there are lesions on the hands; the physician himself should decide as to this for himself, but no instances in which the disease was transmitted farther by the physician affected have been reported in medical literature.

The diagnosis of syphilis should never be made simply from the eruption: local sores, mucous patches, adenitis, or scars of old lesions should always be sought; but there are certain peculiarities about the eruption which should suggest the nature of the disease to the observer. In the characteristic secondary rash, the spots are raised above the surface, and convey to the examining finger the sensation of something being present beneath the skin, which is so characteristic of these eruptions. The color, which is usually described as that of copper or "raw ham," is really a mixture of brownish yellow and red; the brownish-yellow hue being due to the presence of new-formed cells and serum in the corium, and the red to the blood in the dilated vessels. When the blood is pressed from the vessels by the application of a piece of glass, the brownish-yellow color is very distinctly seen. The pigmentation of the syphilitic scar is best described as being of a dirty greyish brown, unlike the rich brown which follows the eruption of lichen planus, and it is invariably associated with a scar, thereby differing from arsenical pigmentation.

In this question of diagnosis comes a curious suggestion from Jullien. He noticed that by using blue glass to look through, at a suspected the eruptions may be discovered before they are apparent to the naked eye, and that traces of bygone eruptions are still discoverable. The method has not been generally adopted, and experience with it has not confirmed the high opinion which the author holds of it; a fact so true in medical history that the originator of a new plan invariably gets the best results.

The "Justus test" is based on the alleged fact that a single inunction of mercury causes a marked reduction in the percentage of hemoglobin in all untreated cases of the various forms of syphilis, due to the sensitiveness of the red blood-corpuscles to the drug, while in healthy persons no such reaction follows. Jones has applied the test in fifty-three cases, and the diagnosis in most cases was confirmed by a colleague. His fifty-three cases were divided into thirty-five syphilitic and eighteen control ones; of the former seventeen were acute, and of these thirteen responded, and four were negative to the test. Three of these had characteristic rashes and other evidence of the disease. Of eight cases of local sore with adenitis, two reacted positively and six negatively. His conclusions are that while the test has a value in the recognition of doubtful cases, it is not infallible, and frequently fails.

The tuberculin test has been used in syphilis; Otis has reported thirty-five cases; the smallest amount of tuberculin used being 2 mgs., the largest 10 mgs. There were six undoubted reactions and five what he called "abortive reactions." Considering only the six undoubted reactions he had 17% of reactions; including the abortive cases, he had 31%. In the author's second series of twenty-six cases of suspected or proved tuberculosis eight cases in which the physical examinations showed sufficient evidence of tuberculosis or in which tubercle bacilli were found in the sputum, he had four reactions and four failures to react. In three cases in which tubercle bacilli were found in the sputum, two did not react; in one 7 mgs. were used, and in the other 5 and 10 mgs.; in the three cases in which 2.5 and 8 mgs. of tuberculin were successfully used, only a local reaction was obtained. The remaining eighteen cases of suspected tuberculosis, there were six reactions and twelve failures to react. In no one of those cases which failed to react could tuberculosis be more than suspected, with greater or less probability, by the physical examinations. A case of lupus of the face, besides giving a general reaction, showed a very pretty local one. A case of chronic laryngitis in which either syphilis or tuberculosis might have been the cause, a reaction was obtained, thus leaving the origin doubtful as before. Otis advises, after going over the subject very carefully, that in using the tuberculin test for suspected tuberculosis, experience teaches that we should look carefully for syphilis.

Joseph and Piorrouski examined the spermatic fluid of syphilitics, microscopically, but found no bacilli; but cultures from this fluid on placental tissue gave positive bacteriological results in all cases; drop-like colonies appeared in sixteen hours, which later assumed a greyish appearance. Under the microscope the bacilli resembled diphtheria bacilli, appearing as rods with clubbed ends, and containing metachromatic bodies; the organism stained readily with dilute carbol-fuchsin, and Gram's method was positive. The colonies degenerated rapidly on the original medium and on agar, but were regenerated by the addition of blood serum. Auto-agglutination was observed in hanging-drop preparations, and the additions of serum from a syphilitic individual produced agglutination. Cases of old standing syphilis gave negative results, and control experiments with healthy spermatic fluid were negative. The bacillus grew with difficulty on placental tissue from syphilitic women; while animal inoculation was not satisfactory, and experiments on the human subject not permissible.

There are two styles of syphilis when it comes to treatment, simple benign syphilis with little tendency to relapse, and a severer form with a marked tendency to relapse and resistance to treatment. The first type is commonly controlled by the administration of protoridide of mercury for eighteen months. In the second form use the "tonic treatment" devised by Keyes in which the patient takes an increasing number of pills from day to day until the gums are touched, or there is a decided fetor of the breath; the number of pills should now be divided by two, and the tonic dose obtained. Christian used the biniodide of mercury in 1-12th grain doses, combined with 5-20th grains of potassium iodide thrice daily in tertiary syphilis. In the early secondary stage the weight of the patient was most important as indicating the efficiency of specific treatment; when this treatment does not control the loss of weight, cod-liver oil and hypophosphite solution should be added.

Wielander has a method for treatment of chancres by heat based on the fact that chancrous pus is non-inoculable when heated to 40° C. This method is as follows: Water conducted by two pipes, one carrying hot and the other cold water, to a copper reservoir, is kept at temperature of 50° C. by means of a gas jet; from this reservoir the water is carried by a rubber pipe to a coil of lead tubing through which it circulates, and then escapes by another rubber pipe. If the water in the reservoir is kept at 50° C. it is found that when it reaches the coil it has a temperature of about 41° C., below which it must not be allowed to fall. The ulcers are dressed with pledgets of cotton wool soaked in warm water, any undermined edges being first snipped off. A layer of moist is then applied round the penis, and over this the lead tubing through which the hot water flows. Another layer of wet wool covers the tubing, and the whole is covered with gutta percha tissue. The dressing is changed three times daily. In twenty cases, in some of which the chancres were both numerous and large, treated in this way, the majority showed after two days' treatment ulcers clean and healthy, and then the secretion was no longer inoculable. The patients were then all ready to go home, and were treated as out-patients; the wed to go home, and were treated as out-patients; the sores usually healing quickly under the application of dermatol. Wielander's statistics showed that among one hundred and eighteen patients treated by his method at an early stage there were no buboes. Chancres also heal under somewhat prolonged spraying with peroxide of hydrogen in full strength; the vapor being projected against the lesion with a pressure of sixty pounds.

In obstinate cases of tertiary syphilis, which will not yield to mercury and iodide, operation should be tried. Cheyne gives the result in three cases—one of specific ulceration of the cheek, another of ulceration of the skin over both forearms, and a third ulceration of the tongue. He thinks that similar rebellious cases might be thus treated by excision of the diseased part and skin grafting, and that gummata and syphilitic necrosis, and osteitis and periostitis might be so treated, but of course, constitutional treatment must not be neglected.

In a series of fifteen thousand seven hundred and ninety-nine cases of early syphilis Wemer discovered fifty-seven cases of jaundice, which he considered to be specific excluding catarrhal jaundice, early cirrhosis of the liver, and tertiary syphilis of the liver. The characters of syphilitic jaundice are: 1. It occurs in the early secondary stage. 2. It is accompanied by fresh symptoms of syphilis. 3. It reacts to specific treatment. 4. The onset is sudden and not accompanied by gastric symptoms. 5. It generally appears with the first skin eruption, occasionally with relapses. 6. Pruitus is rare, and xanthopsia only occurred in three of the author's cases. 7. Hepatic enlargement is slight, and ascites never occurs. Syphilis with jaundice is usually severe. Wemer believes the pathology may be either enlarged glands in the portal fissure or papular eruption in the intestine causing obstruction by implacating the bile ducts.

At the Congress für Innere Medezin Blum proved that iodine formed with albumin a staple substitution compound, by the formation of an albuminous substance (iodoalbumin) in the thyroid gland after the administration of iodide of potassium. Potassium iodide easily yields its iodine when acted on by oxidizing agents, and on the other hand, in the case of iodalbacid (a stable combination of iodine with a proteid nucleus, containing 10 per cent. of iodine), much stronger oxidizing agents are necessary to liberate free iodine. The living body has a sufficiently strong oxidizing power for this purpose, shown by the quantitative excretion of iodine in the form of potassium iodide after the administration of iodalbacid, which can only be effected by oxidation and not by reduction. The relation between potassium iodide and iodalbacid is similar to that between glucose and starch; the latter never produces glycosuria, as it is only absorbed in proportion to its conversion into dextrose, no matter how large the dose. In the same way iodalbacid never produces so great an excess of iodine, liberated in the tissues of the body, as potassium iodide. Iodalbacid is also practically not eliminated by the kidney, and hence during its sojourn in the body not only is its action (in liberating iodine in the tissues) slower and steadier, but its excretion is slower, but its action is longer. In numerous cases of syphilis in which potassium iodide produced slight or grave symptoms of iodine poisoning, the administration of iodalbacid was free from such effects. Again, most of the potassium iodide given in tertiary syphilis passed through the body too readily to affect the tissues. Hence potassium iodide is indicated in cases in which first rapid action of iodine is desired; for example, in severe tertiary eruptions. But in all coses where a prolonged iodine treatment is desired iodalbacid should be used. Fifty cases of syphilis were treated in this way at the Dermatological Hospital, at Breslau, and in the private practice of Neisser. The results were good in all cases; 3 to 5 grains of iodalbacid in capsules being given daily.

As to mercury the conclusions of Justus are excellent: Syphilis untreated produces a diminution in hemoglobin varying with the severity of the disease. This diminution is compensated by degrees as the symptoms of syphilis undergo spontaneous involution; the same diminution in hemoglobin occurs after the adminstration of mercury, and is proportionate to the amount of mercury used. Inunction causes the same effect as injection. Ingestion by pills causes less effect owing to the smaller dose. The hemoglobin is restored sooner or later according to the severity of the symptoms. It may again sink after repetition of the administration, but if treatment is continued, it ultimately reaches a higher level than before treatment was begun. When the hemoglobin ceases to sink after repetition of mercury the syphilitic symptoms remit. This sinking of the hemoglobin after the administration of mercury is a specific phenomenon, and is not observed in the blood of healthy persons, nor in other diseases. This reaction is present in early secondary, and in all subsequent stages. It disappears when symptoms subside, but reappears at each relapse; mercury circulates in the red corpuscles, and is only present in the serum when the corpuscles are saturated.

An old time remedy is grey oil. Lambkin has made extensive use of a modification of the "oleum cinereum," introduced by Lang, of Vienna, in 1888. Lambkin uses hydrarg. ℥j, lanolin ʒij (by weight, mixed with ol. carbolic (1 in 20) ℥iv (by measure). 10 minims of this are used for each injection, and the injections are done once a week, in the pluteal muscles. Lambkin has done over six thousand injections with no bad effects. This method is advocated for the treatment of soldiers, especially in India, on the following grounds: 1. By this method the soldier can be treated whilst out of hospital at his duty for that length of time necessary to cure the disease. 2. The treatment is in the surgeon's own hands, and he sees that it is carried out. 3. It is less liable to cause diarrhea and indigestion. 4. The State gains because the time spent in hospital is diminished, while the chances of readmissions are reduced. Lambkin first used injections of perchloride of mercury, but gave it up owing to the pain caused by it. He prefers the "grey oil" to any other form of injection, but has also used sozoiodol of mercury (sodae iod. grs. x, hydrarg. sozoidol grs. v., dest. m. c.c.; mx to xx daily). This causes more pain, and does not seem to have such a good effect as the grey oil. He uses platinum iridium needles one inch long. The average time of treatment was five months.

A model meat supply is described by N. H. O'Neill in *The Medical Times and Hospital Gazette* (May 27, '05). The population of Berlin is two and one-half millions, for whom the city corporation has erected at great expense a combined cattle market and slaughter house, which occupies an area of over 27 acres. All cattle offered for sale must be brought thither, and the slaughtering of cattle anywhere else in the municipal boundary is absolutely prohibited. Sheds are provided for the reception of oxen, sheep, swine and calves respectively; and strict attention is given to the foddering and cleaning of the animals, and also to the free ventilation of the stalls. Four thousand animals can be dealt with at one time. There is the most scrupulous cleanliness at every stage of the work. On one day alone 7,763 pigs were slaughtered and inspected; and here over one million pigs and a corresponding number of cattle are slaughtered annually. There is one director of the public market and abattoir; about sixty qualified veterinary surgeons and meat inspectors, and three hundred and sixty trained assistant meat inspectors (of whom 160 are women) who examine microscopically meat suspected to be diseased. Eighteen minutes is the time devoted to "each individual suspected portion." These assistants work on an average five and one-half hours a day and are paid at the rate of eight pence for each specimen examined, each worker thus examines about 25 specimens daily. They must before appointment have their eyes carefully tested; and they work only four days in the week. From one to two per cent. of the cattle and pigs are found diseased. In the latter tuberculosis, jaundice, trichinosis and tapeworm are most frequently found; in cattle tuberculosis, tapeworm and actinomycosis. All meat is divided into three grades: pure, sound meat; partly diseased meat, which must be sterilized and sold at a reduced rate; and meat unfit for human food, which must be destroyed, the fat being used for soap and candles, while the bones are converted into manure. The value of a condemned carcass is handed to the insurance company; and its owner is paid in full. All animals to be slaughtered are insured. They are carefully examined both before and after slaughtering. The sanitary conditions of the building are as perfect as may be. All male employees wear white linen overalls. Everything is carried out with scrupulous cleanliness. The strictest courtesy is observed toward all persons. All meat is stamped as an evidence of guarantee to the public of its condition; and no meat can be sold otherwise. The reader should further examine the regulations set down by Cornet of Berlin regarding tuberculous cattle in his book (*Nothnagel's System of Medicine*). And it should be his rather dismal duty as a citizen to read the reports concerning our own Chicago stock yards in *Collier's* (April 22, '05).

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THE STATUS OF GOUT.

THE etiology of gout is a question in medicine, like Hamlet's father's ghost, that will not down. Even editorially it is receiving attention. Scarcely are we ready to accept one theory and set of observations before another one is set before us to absorb. It is a sort of unending "medical merry-go round." Let us see what the very latest authorities say. Von Noorden, who is a clear-headed observer, says: "There is sometimes a real retention of uric acid in the body, which is followed by an increased excretion of uric acid in the urine; but the uric acid contents of the blood do not vary in a typical manner with the phases of gout, and we do not really know what compounds circulate. Gouty deposits consist of sodium biurate; uric acid is a poison determining inflammation in the surrounding tissues, but only when the solution is sufficiently concentrated; the solid needles are non-irritating. Alterations of the alkalinity of the blood and tissues cannot explain the deposition and the solution of the crystals; this solution of solid needles is a phagocytic process. The crystals are deposited probably before the acute attack and the acute gouty inflammation depends on their sudden solution. The form in which uric acid circulates in the blood is uncertain; it has been suggested that the normal organism has at its disposal a number of organic substances with haptophorous side-chains for catching and dissolving uric acid. Out of these combinations the kidneys eliminate uric acid. Deviations from the normal may arise when the influx of uric acid to the blood is too great, or when the sum of the uric acid binding substances is too small." Von Noorden also states that food containing an excess of purin bodies is to be avoided; alcohol is very injurious in gout, probably because it interferes with the formation of uric acid haptophorous chains. Alkalies in every form are utterly useless; indeed in true gout they cause an actual retention of uric acid. Salicylic acid is a powerful but dangerous uric acid eliminant, while the water of certain saline springs brings about a striking and remarkable increase of uric acid in the urine. The excreta of gouty patients shows that the endogenous purins are increased by administration of sodium salicylate, and this increase does not arise from excessive cell destruction, but probably from diminished destruction of already formed uric acid. The exogenous purins are metabolized by gouty patients almost as well as by normal individuals, any slight retention being due to increased capillary pressure and subsequent slowing of the lymph stream, and not to the formation of abnormal compounds. The endogenous purin in gouty individuals may possess peculiar affinities and combine with abnormal products of proteid metabolism. The presence of constipation in gouty patients is accompanied by an increased output of uric acid, this excess, however, apparently arising from diminished destruction of the formed uric acid.

The salts of uric acid chemically examined show that there is no evidence of the existence of a third order of uric acid salts—*i.e.,* quadriurates—either in the artificial or natural amorphous urinary deposits, or in the body fluids. The substances obtained artificially under the conditions supposed to produce quadriurates, consist of mixtures in varying proportions of uric acid and biurates, or of pure uric acid or pure biurates alone. Natural morphous urinary deposits consist of a mixture of uric acid with urates of sodium ammonium, potassium, calcium, and magnesium. The property of some amorphous urates, of showing the formation of uric acid crystals under the influence of water, is due to the dissolving out of the more soluble biurate moiety and a change in physical state of the remaining uric acid. Any theory concerning the pathology or treatment of gout, or the uric acid diathesis, built upon the assumption of the existence of quadriurates, requires reconsideration. The existence of two forms of uric acid (the tautomeric lactam and lactim form), may explain the variation in physical and physiological behavior.

The latest views on gout as pronounced by Haig, who is an old time standard, are as follows: That gout is due to poisoning by flesh and tea and similar substances, introducing uric acid into the body in very considerable quantities; uric acid so introduced may not only remain in the body, but may prevent the excretion of the uric acid formed in the body; as a result the body becomes more or less saturated with uric acid, which may irritate its fibrous tissues (gout or rheumatism), or may obstruct its capillaries, causing high blood pressure and defective capillary circulation and their results, such as the great group of circulation diseases, the uric acid headache, epilepsy and mental disease, anaemia, Bright's disease, Raynaud's disease, etc., all of them being mere results of the enormous influence which uric acid exhibits.

When gout is hereditary, then the nutritive disorder of the cells of the first begetter has been continued through the ovum or the spermatozoon in the descendants of these cells.

At the thirteenth International Congress of Medicine, LeGendre gave an excellent account of the principal theories of the etiology of gout to be the following: "The introduction in excess of uric acid by food, or of nitrogenous substances generating uric acid; the formation in excess of uric acid by destruction of the nucleins or nucleo-albumins proceeding from the leucocytes or from the nuclei of all the cells in the body; the accumulation of uric acid by insufficiency of transformation into urea, whether through torpidity of the liver or default of a ferment permitting it to fulfil its uropoetic function, or by inadequate oxidation throughout the organism; the retention of uric acid in the blood by insufficiency of the eliminatory function of the kidney; the resorption of uric acid in the kidney, which being supposed normally to have the function of effecting by certain of its cells the formation of uric acid by combination of the urea and glycocol proceeding from the liver, would become incapable of eliminating the acid formed. This being reabsorbed would in the blood become quadriurate of soda, which being present in superabundance, precipitates itself under certain influences in the tissues in the state of biurate of soda. The presence of urate of soda in the articular tissues sets up therein only a parocystic inflammatory reaction as a foreign body also claims that the uric acid acts as a chemical poison, causing necrosis, and that the preliminary mortification of the tissues is necessary to the formation of the crystallized uratic deposits. Some explain the gouty localisations by the smaller vascularisation or the less resistance of predisposed tissues, and the onset of attacks by the hindrance of the renal functions; others attribute the localisation, paroxysms, and metastases to a nervous influence. Uric acid was regarded as being hurtful only after having undergone certain physical or chemical modifications, and a pathogenic role should be attributed equally to substances other than uric acid, such as alloxuric bodies. Each theory is open to valid objections, and the most plausible could explain only the mechanism of the gouty paroxysm, not the permanent and hereditary transmissable disturbance, the link between the disease of father and son. Gout is observed with special frequency in individuals whose ancestors or descendants suffer from diseases of the so-called arthritic group or from trophic inadequacy, e. g. diabetes and obesity and gout is often associated with some of these diseases in the same patient. The relations established between diseases of the arthritic group warrant us in attributing to each of them the pathogenic process shown to be true as regards one of them by Bouchar, after whose investigations it is no longer permissible to doubt that diabetes consists in a diminution of the aptitude of the tissues to burn up sugar, to carry to the extreme the transformation of carbohydrates. If, clinically, gout is of the same nature, it is probable that there exists in the gouty subject a defective elaboration of nitrogenous material, an inaptitude of the tissues to destroy albumin thoroughly. Among the consequences of the incomplete destruction of refuse, must be included the incumbrance of the organism, both by oxalic, acetic or lactic acids, which can diminish the solubility of uric acid without that substance being necessarily in excess in the blood, and by certain organic bodies the toxicity of which may contribute to the production of the manifold accidents of gout. The morbid affinities of gout are connected with simple albuminuria and interstitial nephritis, and it may be inferred that the functional disturbances of the kidney, as those of the nervous system, play a part in the preparation for gout and in the outbreak of its paroxysms, either by hindering the elimination of toxic waste products of the denutrition of the tissues, or through neurotrophic inhibition of the intracellular metabolism. When gout is acquired, the nutritive disturbance of the cells is brought about by a defective hygiene such as abuse of food stuffs nitrogenous or rich in oxalic acid, and of certain fermented drinks and insufficient physical activity, together with intense mental strain.

HELP FROM LAY JOURNALS.

WE have referred occasionally to the unfortunate economic condition which is closely connected with most of the serious problems of polity which the medical profession has to meet. It is scarcely necessary to explain that we mean the excess of supply of physicians over the demand for their services. Once in a while, a very few medical journals publish editorials of a more complacent or even optimistic tone. In such cases we are inclined to believe that the writer is too greatly influenced by the relative comfort of his own and his personal friends' existence, forgetting the bitterness of the struggle for the great majority, or that he is too much impressed with the idea of survival of the fittest.

The facts are that the United States has about one physician for every six hundred of population, at least twice as large a supply as is needed according to the actual experience of European countries having more obstetric work and more disease than we have. For the last few years—very few, indeed—the graduation of young physicians has been just about sufficient to maintain this ratio, and, at the same time, the incidence of disease and, according to many writers, of obstetric cases, has diminished. We are also personally of the opinion that available appendixes and ovaries are being quarried out faster than they can be produced. We do not mean, by this statement, to imply that the incidence of appendix operations exceeds the birth rate nor that cophorectomies are double the birth rate but, allowing for the removal of appendixes by deaths from other cause before surgery has a fair chance at them, for occasional individuals who go through life without an abdominal pang and for certain tight-wad patients and physicians who hang onto their appendixes as to life itself, it seems probable that the supply is really being exhausted.

Seriously speaking, although the ratio of physicians to population is not at present being materially changed, the proportionate demand for physicians' services is falling off and, especially, among the class best able to pay for them. Sound economic considerations require that, in any trade, business or profession, every competent worker should immediately be occupied for a full working day and should be able to find enough work at standard rates of pay to enable him, with moderate foresight to save enough to provide for an old age of comfort, in accordance with his station of life. These conditions are not fulfilled for medicine and it is a very short sighted and unwise optimism to regard the state of affairs with equanimity.

The majority of the members of our profession realize this condition and exercise their influence to restore an equilibrium between supply and demand. Unfortunately there are reasons why this influence has not its proper and expected weight. A large—indeed, a ridiculously large—proportion of the profession are connected with medical schools. The influence of this part of the profession is, in accordance with well-known laws of human nature, rather to increase the number of prospective physicians. Yet, in the long run, how much better it would be if we had, instead of one teacher for every three or four students, a smaller number, properly paid and enabled to make their teaching a serious business instead of a side line. In this connection, we may quote one of the maxims of a successful commercial traveler: "Don't carry side lines!"

Again, even those of the profession who are not engaged in teaching, often urge a son or nephew, office boy or protégé to enter medical study, without any particular aptitude or desire for medical practice.

So far as each of us can exert an influence against the overfilling of our profession, we are still hampered by various personal considerations. As a class, we must maintain a bold front and live beyond our incomes and thus, apparently, belie our words when we argue that competition is already excessive. Then, too, every trade or profession is suspected of selfish motives when it tries to limit the accessions to its ranks. And we must never forget that one of the prime factors of liberty is the freedom of choice of occupation so that, no matter how great the overcrowding of our profession, we must always allow free entrance to anyone who is willing to undergo the necessary struggle and properly to prepare himself for it.

But of late years, the laity has begun to realize the sincerity of those who declare the medical profession to be overcrowded. It is, undoubtedly, partly on this account that laws requiring proper education of medical matriculants and proper training of medical students in the medical schools, have been passed by state legislatures. In numerous addresses to young men at the time of life when vocations are being chosen, the advice has been given to avoid such professions as are already too well filled. Numerous magazine articles have dealt with the medical problem, either in the form of an essay or a story. Fiction writers have, as a rule, grasped pretty well the idea that the beginnings of medical practice involve a bitterly hard struggle. Perhaps, they have exaggerated the physical suffering from cold and hunger in these days of easy credit and lenient treatment of debtors. On the other hand, they have usually had an entirely inadequate conception of the hunger for proper equipment, and for scientific and professional needs. They have made the period of struggle months instead of years. They have used as a strategic point the acquisition of a rich and influential patient or the conquest of the old and rich doctor who capitulates, like the king in the good old fairy story, with the surrender of half his kingdom and his daughter's hand in marriage, or, in some other way, the struggle ends by crisis, whereas those of us who have had the actual experience, know that the acute fever of professional hardship has a high mortality—more than ten per cent., and some say sixteen per cent. of all medical graduates fail to continue in practice, if they even start—that this fever usually subsides by lysis and that it is subject to recrudescences and relapses. Indeed, like malaria, it is often never eradicated, but persists in an annoying though not incapacitating form, throughout life.

Lillian True Bryant, in the July *McClure's,* tells a story of the "City Physicianship," which many may recognize as their own biography of the period when they were getting their first experience of professional poverty, love and political intrigue. Fortunately, the hero gets an accident case in the family of the villain, who, after promised aid, was about to give the coveted appointment to another and this stroke of luck turns the tide. However, fiction must deal either with the tragic or the lucky stories of life. The disagreeable, commonplace stumblings through the dark, bruising our shins but not breaking our necks, encountering nothing eventful and yet, somehow and sometime arriving somewhere out of the dark—these are the lives that we live but they are not worth telling about.

Forty-three women are at present studying medicine in the University of Michigan; in its department of law there are but four women.

THE DISEASE OF FATIGUE.

IT may occur to reflective minds in our inimitable profession of human healing, that, on its ascending planes of superabundant technicalities, there has unfolded a noticeable prominence of mental or scholastic attitudinizing, a tendency to medical transcendentalism, the literal speculative and soaring Emersonianism in physics, that, though unique and beautiful enough in its studied impress, may sometimes happen to balloon its flight exaltedly above the very housetops and steeples of average comprehension, and thereby escape the simpler reach for handy practical service.

In face of the en-masse necessities of plodding humanity, the more obvious mission of the great rank and file of medical practitioners, (not theoreticians), who are doubtless full to their finger ends of daily work and mede of income needs, while gleaning for helpful knowledge they naturally award a hurried glance at the provided store, but often indeed to only gloss over the first few paragraphs of learned, technical, stupendously prepared dissertations which may eminently dignify in plain type the monthly page. It may be the most learned exhibit thus deferentially turned aside unread, for search of something that is tangibly closer to mother earth, where the hunger and thirst for ready assistance by simpler process promise a more accessible and happy utility. The wise harvester, who would timely tie his ripened sheaves along the falling swath, cares little to grasp for unreachable rings of the planet Saturn to make hurried binders. The stomach that aches for the comfort of bread, wills and waits not for analysis of the mysterious complexities chemically combined and visibly evolved by the everyday grain of wheat. It is to escape from, it is the ready relief from, the hostility of physical disintegration that is sought by the practical-minded masses we serve, who take neither pride nor liking to entoned scientific mumble or top-story disquisitions that to the level ear fall like sonorous swish of waves when the solace of only a plain-faced drink of water is the only relief craved.

The primitive stage of many a pathetic illness is simply the disintegration of undue fatigue—the quite universal experience from uncounted agencies to which mortals are subject in the multitudinous overstrains hinged to modern civilization. This subject is far from trivial. It should not be allowed neglect of thought. Its problem effects all humanity and faces us in some phase every day. Wives and home-keepers whose work is never done; mothers burdened with child-bearing cares; the exacting tax of society functions and fashion stunts; men and women and youths who monotonously drudge from month to month; brain-workers who profusely expend nervous energy at its source; how many of the world's workers realize that the grasp of fatigue is the great yearning prayer for physical relief and rest! —a sore craving for conditions less burdensome—for hours less exacting!

How sparse the number among the physician's clientele—how unaccountably remiss are the physicians themselves—who accord cautious recognition to the verity that real fatigue is exhaustion, its appeal of discomfort is the call to witness the measure of exhaustion already incurred, whether of physical toil, muscular or mental strain, or the languor of worn-down energies,—in short, that fatigue is a herald of encroaching phase of de-facto illness! The province of normal exercise to the functions of health may be likened to the relations of the sunbeams to the elements of life on the earth, the motive influence that modifies temperature, impels reviving motion to the atmosphere, rouses the cleansing brooms of the wind, flushes and disperses the pools of stagnation to the disinfection of the salty sea. Normal exercise rouses the energies from sluggish lairs, sweeps the systemic organism with renewing flush of nutrition and vital innervation. It transfers the impurities of denutrition to the open gates of vivifying oxygenation, flushes the leash of the skin into free exit of perspired depurative material, and through invigorated metabolic process provides enjoyable relish for sustaining foods. But not so is positive fatigue. Fatigue excoriates and wears through to the raw nerve of endurance which then quivers and throbs under the rasp and pressure of even ordinary but overwrought effort. The rash spur of will power may sometimes become the burglar of the human citadel and its murderer. The willing spirited horse may not slacken speed till he falls to expire where his last tracks landed him—driven to death!

Disease grows by what it feeds on. The overdoing of strength is the undoing of health. Slow suicide by legitimate exertion is not an uncommon possibility among our ambitious people. In the supple livery of rush and push, with the severe accoutrements of pull and drag, death masquerades unrecognized. The doctor should recognize this dread pantomine even if the people discern it not. A slowing of the pace, a systematized division of the hours, would prove incomparably more rational and profitable than to rake the broken system, after it is down, with our extraneous stuffs we call drugs, ranked in labelled rows by thousands in their apothecary arsenals. The pathos of tragedy shrouds the circumstance that the business-hounded clientele of physicians reach their vital breaks and take-offs through voluntary grind in which danger is viewed askance much like the risks of loss and defeat in the ventures of stock deals.

But the physical problem of fatigue is as plain as the mathematical differences between elementary tables of addition and subtraction. Continue incontinently to subtract on each day or night more than is added to the vital forces, and it is like the fountain dipped dry of its supply. The source of elastic energy fails just as the bank of current finance becomes invalidated and forced into suspension by runs of overdrafts upon its normal reserve. Systemic default is seldom the precedent of itself. It is not, however, the fact of exertion that has dethroned the supportive energies; it is the consuming expenditures beyond the normal equation. Normal exertion promotes enjoyable appetite for restorative food and the refreshment of sleep. What, then, does the situation mean when we hear one say: "I am, or was, too tired to eat—too tired to sleep!" The blood has had its elastic elements worn and wasted from its pabulum: the blood is in a state of deficit and impotence. The nerves have been drained of their functional impetus. Their batteries have run down in voltage below the grade of effectiveness. The relaxed muscles have flagged for respite and relief. With the retreat of vital defences into the slough of inertia, the body grows sick with depression. The tide is out, and the yielding sands lie bare to aggressive impress. Like a sponge that absorbs any evil diluent that touches its surface, the system is open to whatever malady drifts to its train of infirmity and the development of a variety of extended ailments mark the ensuing stage of the case. And then what? How earnestly we diagnose a nomen this or noman that, assuming that we are prescribing for the actual disease! And how appropriately we believe we are wise! We uncork the batteries of shining bottles charged to the throat with compressed tablets and solidified pills and scathing liquid compounds to batter down rebellious functions that have faltered on the march. We also mentally scan the horizon of probabilities for mysterious burrowers of bacterian sort that may be sapping the vitality, and we invoke impromptu antitoxins to prevent any insatiable invisible bacillus from consuming the patient. We are on dress parade with drawn swords.

The illness of fatigue is for the time the illness of incipient dissolution. Read the late testimony of Dr. Weichardt: "The author pulled guinea pigs back and forth over rough ground till they were very tired and there came a sinking of the bodily temperature. Under careful antiseptic precautions, I obtained some muscular plasma, which as compared with the normal flesh tasted bitter, and was reddish in color. Animals into which it was injected, in any quantity, died promptly." This investigative experiment made by the German examiner teaches and incidentally demonstrates a realistic lesson in the severity and blight with which the human system may be stormed by the corpuscular and muscular disintegrations of excessive fatigue. What must become of the delicately constructed heart in such conditions? How closely linked the unlimited train of nervous prostrations?

As corollary to this pathological postulate opens here the thought that reaches deeper into physical and mental mischiefs of actual fatigue, namely, the depressing environment, wherein the exertion is made, that disposes to undue weariness as gauged by the actual toil performed and endured. If the air breathed be pure and tonic, if the work-place and the home hygiene be wholesome, they potently defend the body from nutritive defalcations and sense of depression expressed by fatigue and lethargy;—whereas the opposite conditions of daily and nightly environment directly entail the discomforts of fainting energies. Then the thraldom of weariness is one from which there is little respite or escape till a nervous prostration, a grippe, a typhoid, a neurasthenia, or other culmination rounds into the crisis of struggle for recovery.

YELLOW FEVER.

SOME forceful comment is certainly apropos with regard to the yellow fever situation which was recently developed in and about New Orleans. This city, it seems, announced its determination to "demonstrate thoroughly to the world that yellow fever can be driven out of New Orleans." What that portion of the world included with in the United States had a perfect title to expect was that New Orleans should have kept out the disease—should in fact never have admitted it; and her failure here has been a stigma upon the entire country, and has caused much national suffering. The work of Reed, Gorgas, Mansen and Guiteras, by which Havana and Cuba have been made proof against this disease, and that of Marchoux and Simond, of the Pasteur Institute in Paris, should certainly have borne better fruit. We must note, however, that the fault has really not been so much with the municipal health authorities, as with the difficulties they met in getting their wholesome regulations complied with. These regulations, which we here reproduce, are admirable; and there would certainly have been no epidemic had they previously been effectively enforced:

"Clean out every place where water stands.

"So dispose of old tin cans, bottles, or what not that rain cannot possibly be retained.

"Watch your roof gutters.

"Empty your rain barrel of water every week, or screen it closely with fine-meshed wire on top.

"Change the water every day in a drinking pan for dog, cat, or bird.

"Watch the watering trough near your stable.

"Fill a hole in a tree with soil packed tight, or with cement.

"In other words, get rid of, or coat with kerosene, all stagnant, standing water, and you will get rid of mosquitoes.

"If you have a playing fountain, put little fish, like minnows or goldfish, in the water, and they will eat the mosquito larvæ.

"If you have a sluggish brook or a stagnant pond near your house, spray kerosene or coal oil on the surface; this makes it impossible for the 'wigglers' to breathe when they come to the surface, and they die. The coal oil application is only necessary at the edges, and is good only so long as the oil film is unbroken."

These regulations, based upon the scientific principles enunciated by the great physicians just mentioned, are worthy the attention of every municipality in the United States; for there is no city within our borders which may not suffer as New Orleans has done, if sanitary measures are neglected. These measures should be based upon time-established facts; that yellow fever is transmitted *only* by a mosquito, the Stegomyia fasciata; and that yellow fever will be abolished wherever and whenever by general sanitation this pest is destroyed.

The lay press reports most pitiful results of carelessness and neglect of these simple principles. It is not true, as has been said, that no doctor over forty will ever learn anything new; but there are sufficient such to make the work of advanced and humane sanitarians very difficult. There were, for instance, New Orleans physicians who had to be legally dealt with for not screening cisterns, or for maintaining filthy premises. Just behind a hospital, states the *New York Times,* a pavement was disinterred by the removal of a yard of filth. The filthiest street in the city was the one leading to the cemetery where lie 50,000 victims of previous epidemics. A devoted and beloved Catholic Archbishop while working fearlessly among his sick of this disease, gave up his noble life.

The worst among the evils attending the recent epidemics was the persistence by several states in "the imbecile, old-fashioned panicky" quarantine, some of the features of which must here be noted in the hope that we may, by doing so, assist in the burial forever of this mediæval institution. One town in Louisiana actually refused to admit a consignment of carbolic acid sent to it for disinfecting purposes, another turned back a carload of steel rails. A young man from New Orleans went to a neighboring point to look over some timber lands for his employers. He had the misfortune to be taken sick, and the sickness being suspected to be yellow fever, he was driven from several towns and finally compelled to seek refuge in the swamps. A party was sent out with a doctor to try and find him, but it was feared that "he succumbed to the treatment to which he was subjected in his sickness."

Three Italians, one of whom was sick with a suspicious fever, were in a yawl, upon which they were set adrift from a Mississippi steamer. They were trying to land on either shore to get provisions and attention for the sick man. They were driven from point to point by armed guards and were not permitted to land.

There was a burlesque quarantine war between Mississippi and Louisiana, in which "the battle of the Rigolets" was fought, fortunately without tragedy, in which sand barges and oyster boats were sworn in as naval vessels. Local and parish health boards in Louisiana established quarantines in defiance of the Constitution, under which such action could not be taken without the approval of the State authorities; thus was the State defied, and embargoes established, by which not only was freight shut out, but all through travel estopped; telephone and telegraphic communication was cut off and non-intercourse proclamations were issued by which some towns were left in a starving condition; and others without medicines and attendance, when these things were so sorely needed. Thus were senseless and cruel hardships inflicted upon thousands of unoffending people. The town of Jennings, La., in the centre of the rice and oil districts of Calcasieu, reported itself on the verge of famine because of the quarantine. A citizen of Laurel, Miss., was heavily fined by the Mayor for joking about yellow fever, and warned not to be funny again upon the subject. The town of Patterson established a strict shot-gun quarantine against the rest of the parish at St. Mary. All this time Patterson was the only portion of St. Mary suffering from the yellow fever and had nineteen cases in one day. This quarantine was finally removed by the Patterson authorities; when the rest of the parish of St. Mary reversed the matter by quarantining against Patterson.

Finally those who remained sensible and level-headed discerned that the only hope in the situation lay in an appeal to the National Government; and in this appeal those in authority in the various involved states joined, with the result that a national quarantine was esablished. Dr. J. H. White, of the Marine Hospital Service, was put in supreme command of the situation; and under his sane, tactful and masterful direction order was brought out of chaos and the epidemic was checked. We may here state with renewed appreciation that Dr. White saw that the purposes and aims of the New Orleans Health authorities were good (though their power was ineffective); and his work was in large part simply to endow the principles they enunciated with the power of the government. We may here see with pleasure that in this trend of affairs the establishment of a national quarantine service and of a national health department is brought much more distinctly within the range of possibilities. When a city like New Orleans and a State like Louisiana, in which jealousy of national control has been strongest, throw up their hands and implore the Washington authorities to take charge of the fight against yellow fever, the end of merely local and conflicting safeguards against a national invasion of epidemic disease cannot be far away. "Congress will undoubtedly be called upon to make the powers and duties of the national government larger and more precise in all that relates to oversight of the public health. This is the way in which constitutional changes gradually came about in this country. A crying practical need presents itself, and then we adjust the law of the land to meet it. On purely theoretical grounds the change would be opposed; but the concrete emergency carries off the argument triumphantly." (*New York Evening Post.*) Let those who would still oppose this change reflect that with regard to yellow fever at least, this disease was on August 8 reported in four places in Mexico, three in Honduras, in British Honduras, Guatemala, Panama, Colon and several other places on the Isthmus; in Venezuela, Ecuador and Brazil; in Senegal, Africa and in Santa Cruz in Teneriffe.

THE EVOLUTION OF THE HUMAN FACE.

THE study of physiognomy should greatly interest the physician, especially the alienist; but here scientific literature is singularly meagre. We know of no authoritative work upon this subject. All physicians have learned a great deal from experience, and the power of observation which is perforce very keen in our profession. The bags under the eyes point to the kidneys and the heart; the retracted alae to some nasal or other obstruction to respiration. The thick lips denote the sensuous nature; the large, luminous eye the poet; the fugitive eye, looking anywhere but straight in yours, the ill-balanced, paranoic temperament, which recruits the rank and file of the large army of cranks. Then there is the "terrible smile," described by the *Autocrat of the Breakfast Table,* which indicates so pitifully the weak and paretic tendency. And the receding chin indicates the timid man (but not always—one had best not here assume too much, as witness the late Inspector Byrnes.)

Rufus Mann most interestingly traces the *Evolution of the Face* in *The International Quarterly.* Although the origin of all the elements of the human face cannot be traced they have probably all been developed in the life above the fishes, the heads of which are however imperfect. The latter are not separated from the rest of the body; there is no neck, the gills are attached to it, requiring a complicated system of machinery to aid their functions, sight and smell are good, but hearing is inadequate, and the voice is indistinct and quite inarticulate. The reptiles are the next step. Here there is a neck and a head fairly finished, "the ennobled part of the body is more distinctly separated from that which serves the lower functions." Every essential feature, except, perhaps, the outer ear, is at least suggested. Advance to higher forms is now made on two distinct lines: on the one hand, to the birds, on the other, to the mammals. There is a wide spiritual gap separating the reptiles and the birds; we pass from dull and stupid things, with rigid and apathetic faces, to creatures which embody emotional activity. The mentality of the latter is bewitchingly voiced in their song; but more than this, the face becomes capable of much expression.

The monkey furnishes the first clear premonition of the human face. We see here, with something of a shiver, "this part beginning to adjust itself for a higher destiny." The jaws become shorter, the mouth diminishes in size, the nose, hitherto flat, begins in some species to assume a distinct human outline; the eyes are closer together, and the eyebrows somewhat better defined; the hair, although still covering the face, grows so as to separate it more sharply from the head; but above all, the facial muscles become developed, so that a real play of countenance is evolved. The faces of monkeys are indeed more expressive than those of the lower races of men, for, having no articulate speech (here Mann is not in accord with Prof. Garner, the simians' friend), they are compelled to signify by grimaces much that the genus homo conveys by language. Thus the first result of speech would seem to be to limit the mobility of the face, but with the higher races the scope of ideas and emotions is such that the voice, a most important organ of expression, cannot meet the demands of the mind, and in consequence the face becomes obedient to the soul.

The lifting of the forehead and the accentuation of the chin have more than any other factor produced the noble and commanding appearance of the human face. The distance from the eyes to the ears has also steadily increased; as has also the height of the countenance as compared with the width. This latter modification appears in all races in the ascending grade of culture. The localization of the hair of the face, although characteristic of man, is indicated in the lower forms. In male monkeys, for instance, the lower part of the face is in some species bearded. With the loss of the hair there has resulted the peculiar sensitiveness of the skin which is manifested in blushing. This phenomenon, together with the sentiments occasioning it, are peculiar to man.

The abolition of the hand-shake is being strenuously advocated by Dr. Nelpasse, a French physician, living in Constantinople who would substitute the "Temenah," which is the Oriental form of salutation. Here one places the right hand on the heart, on the lips and on the forehead, signifying thus: Thou hast a place in my heart, and on my lips; and thou art always in my thoughts. Dr. Nelpasse would base his change of salutation upon the fact that the hand contains over 80,000 microbes—more or less—to the square inch, which are likely to be transferred from hand to hand. No doubt there is here a good scientific observation; though we should think that not a transfer but an abolition of microbes—the terror of modern civilization—is desirable. But it would seem that the Temenah takes too long by a second or so. Besides it would in most cases signify too much, except among lovers and very dear friends and relatives. The Chinese method—that of shaking one's own hands and bowing—appears to us a very fair compromise.

THE AVOIDANCE OF PAUPERISM.

IN our American civilization, at least, the danger of inducing pauperism furnishes one of the most serious problems of scientific charity. To help without doing harm has become a matter of extremest difficulty. A mere detail of charitable work will illustrate. In the city of New York day nurseries are provided in which mothers may leave their children while they go out to work by the day. Here is a touching charity which certainly appeals to the tender-hearted, and is beyond criticism for a small proportion of cases. But they exist now in altogether too great profusion, fostering a dreadfully false condition of life. Again settlement work has made it possible for many a family to get its bread without price from one quarter, its meat from another, its clothing from another, its comforts from another. Thus have these means, by removing in large measure the necessity for parental maintenance, been efficacious, more than any other one agency, in fostering paternal drunkenness and desertion. So that 60,000 cases of desertion by husbands have recently been reported for the one city of New York.

This danger of charitable enterprise has engaged the serious attention of publicists of a sincerely humanitarian type. Leckey, for instance, finds it difficult to overrate the evil effects of injudicious charities in discouraging "thrift, industry, foresight and self-respect." (*The Map of Life.*) And Bishop Potter urges the philanthropic to guard against enervating the integrity of the individual, absolutely the one and only sure force upon which wholesome human civilization can be based.

In England the danger here noted is in great degree obviated, at least in rural districts, by the village clubs to which the laborer pays a few pence weekly or monthly. The improvident one who falls behind with his "club money" is a marked man; on the other hand, he who pays it in "regular" may thus cover many transgressions. Few there are who will not make the necessary sacrifice of beer in order to belong to the "Goose Club," which provides each member with a goose for his Christmas dinner, and to the "Burying Club," so that his wife (who is always assumed to survive him), may bury him decently. The "Blanket Club" is an enterprise for the women folk. Such clubs contribute greatly to the comfort of the rural home, and to the self-respect of the villager; and they are a feature of communal life which should greatly interest the economist.

In France there is the "Trousseau Club," which does much to obviate haphazard marriages and hasty, inadequate and improvident preparation on the part of the young woman. One of the greatest hindrances to the happiness of married life among working people in the towns, states a recent number of *Reforme Sociale,* is the lack of a trousseau for the bride; in fact, without it the home is not founded at all—the nest is not built, "simply because there are no feathers." To meet this untoward phase of life the "Oeuvre du Trousseau" was founded—a society which induces young girls to begin at nine to make and to store up the trousseau, which is to be handed over to them at the age of eighteen. At fourteen, if the girl has paid regularly the dues of fifty centimes per month, and has attended the sewing meetings of the society, she becomes a director of the concern, by right of her stake in the business, and at eighteen can withdraw her profits in the shape of an excellent trousseau—consisting of seventy-three pieces of household and personal linen—made by her own hands, or, in any case, wholly hand made, and of excellent material. "Who is so likely," comments the *Evening Post,* "to keep her linen closet in good order and replenished as she to whom it represents nine years of small economies and countless hours of effort." This "Oeuvre" is carried on now in more than sixty towns of France, not as a charity dependent on the caprice of the philanthropist, but as a regular business concern—in which fact lies its great and all-important merit.

BIBLIOGRAPHICAL

The Treatment of Fractures; with Notes on a Few Common Dislocations.—By Charles L. Scudder, M.D., Surgeon to the Massachusetts General Hospital. Fifth Edition, Revised and Enlarged. Octavo of 563 pages, with 739 original illustrations. Philadelphia and London: W. B. Saunders & Company, 1905. Polished Buckram, $5.00 net; Half Morocco, $6.00 net.

It is with pleasure that we welcome a new edition of this excellent work. It is, indeed, a most remarkable book, and the author and publishers are to be congratulated upon its publication. In this, the fifth edition, Dr. Scudder has added some fifty new illustrations, many of them X-ray plates, illustrating the actual line of fracture. The text also has been very carefully revised and new matter added throughout. Important changes have been made in the treatment of fractures of the neck of the femur, bringing this part of the book in accord with the latest advances. The 739 illustrations do what they should—they *illustrate,* showing the reader just what is intended. Undoubtedly this feature has aided greatly in the success of the work.

Human Physiology.—Prepared with Special Reference to Students of Medicine. By Joseph H. Raymond, A.M., M.D., Professor of Physiology and Hygiene, Long Island College Hospital, New York City. Third edition, thoroughly revised. Octavo volume of 687 pages, containing 444 illustrations, some in colors, and four full-page lithographic plates. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $3.50 net.

It is evident that in revising his excellent work for the new third edition, the author has spared no labor to bring it up to present-day knowledge. Every page shows evidence of careful revision, and in that portion devoted to the physiology of nutrition, Chittenden's valuable contributions have been included. Besides more fully elaborating many topics previously discussed in the former edition, the author has introduced a number of new subjects, among which are the Influences of Alcoholic Fluids on the Excretion of Uric Acid, Hemolysis and Bacteriolysis, and Ovarian and Abdominal Pregnancy. The text is fully and practically illustrated, and the volume has no superior in its up-to-date and accurate information.

Handbook of Anatomy.—Being a Complete Compend of Anatomy, including the Anatomy of the Viscera and Numerous Tables. By James K. Young, M.D., Professor of Orthopædic Surgery, Philadelphia Polyclinic; Clinical Professor of Orthopædic Surgery, Woman's Medical College of Pennsylvania; Instructor in Orthopædic Surgery, University of Pennsylvania; Fellow of the College of Physicians of Philadelphia; Fellow of the Philadelphia Academy of Surgery; Fellow of the American Orthopædic Association; Member of the American Medical Association, etc. Second edition, revised and enlarged. With 171 engravings, some in colors. Crown Octavo, 404 Pages, Extra Flexible Cloth, rounded corners, $1.50, net. F. A. Davis Company, Philadelphia.

This excellent manual has not only been brought to date in the present edition, but the size of its pages has been enlarged and increased in number, and the illustrations have been greatly augmented. The general practitioner as well as the student will find the book of great service. Special attention has been given to the anatomy of the brain and nervous system. We cannot commend the book too highly.

The Surgical Assistant.—A Manual for Students, Practitioners, Hospital Internes and Nurses. By Walter M. Brickner, B.S., M.D., Assistant Surgeon, Mt. Sinai Hospital, Out Patient Department,, etc. 360 pages. 123 original illustrations and 116 illustrations of surgical instruments. New York: The International Journal of Surgery Co., 1905. Price, $2, net.

This manual is one of the important books of the year, inasmuch as it fills a place in medical literature that has hitherto been unfilled. It certainly meets a widespread demand in a highly acceptable manner, and it is sure to attain immediate and lasting popularity.

The book is not too large for the doctor's overcoat pocket, nor the nurse's satchel, yet it covers the entire subject. The first two chapters deal, respectively, with *the general conduct of the assistant* and *the hospital interne* and contains much practical sense and sound advice for young men to take to heart.

The second part of the book deals with the most commonly performed operations, describing them step by step, from the assistant's standpoint.

A useful appendix to the work consists in the *preliminary preparation and routine after treatment of operative cases,* the various methods of preparing suture material, iodoform gauze, etc., etc., and a *formulary* of surgical solutions and wound applications, etc.

It is a book that no young practitioner should be without, as it will prove of the greatest value to him in his every-day work. Likewise it should be in the hands of every nurse and hospital interne. Its use will not only assure great efficiency in everything pertaining to surgical operations, but will prevent embarrassing delays and annoyances caused by inexperience or lack of knowledge.

Diseases of the Kidney, Diseases of the Spleen, and Hemorrhagic Diseases.—By Drs. H. Senator and M. Litten, of Berlin. Edited, with additions, by James B. Herrick, M.D., Professor of Medicine in Rush Medical College, Chicago. Octavo of 816 pages, illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $5, net; Half Morocco, $6, net.

With the appearance of this, the eleventh volume of Saunders' American edition of Nothnagel's Practice, the work nears completion, the final volume on the Heart being now in active preparation. Like the others, this volume can be taken as the acme of knowledge on the subjects embraced. Professor Senator's clear style, systematic arrangement of facts, and logical reasoning make his articles on the Kidney indispensable to the practitioner. The editor, Dr. Herrick, has enlarged on certain points whenever necessary, especially regarding treatment, diagnosis, urinary analysis, etc., so as to increase the value of the work to the general practitioner. He has also added articles on Cryoscopy and Phloridzin Glycosuria.

The sections on the Spleen and the Hemorrhagic Diseases were written by Professor Litten, whose pioneer work in these fields is widely known. The articles on the Mosquito and its relation to Malaria, on Splenic Anemia, on Congenital Icterus with Splenomegaly, and on the X-rays in the treatment of Leukemia have been brought down to date by the editor. Indeed, the editor's interpolations add greatly to the practical value of the volume, and we are sure such an authoritative work on these subjects has never before been published.

The work should certainly find place in every medical library.

A Syllabus of Materia Medica.—Compiled by Warren Coleman, M.D. Professor of Clinical Medicine and Instructor in Materia Medica and Therapeutics in Cornell University Medical College; Assistant Visiting Physician to Bellevue Hospital. Second edition. New York. William Wood & Company, 1905. 16mo, pp. 189.

This little book will be found of service to the student in a most difficult subject. It has been prepared by the author, after an experience of several years in actual class-room work, and ought to fill a want. It is the simplest arrangement we have seen, and very concise.

A Text-Book on the Practice of Medicine.—For Practitioners and Students, by James Magoffin French, A.M., M.D. Formerly Lecturer on the Theory and Practice of Medicine, Medical College of Ohio, Cincinnati. Second revised edition. Octavo volume, 800 pages, illustrated by 11 full-page plates and 50 wood engravings. Price, muslin, $4, net; Sheep, $4.75, net. New York. William Wood & Company.

The timeliness of this book is demonstrated by the early demand for a second edition. No attempt has been made by the author to record all the theories that have been advanced in the literature, but only those that are generally accepted or the truth of which is attested by the best authority. The principal changes will be found in the sections on the acute infectious diseases and animal parasites. Several chapters have been rearranged in order to throw all the acute infections into one group, agreeably to the clinical order in which they are usually studied instead of the etiological relation followed in the first edition. New methods of treatment have been referred to as their importance seemed to justify. The size of the book remains practically the same. This is an ideal book for the busy practitioner who wishes to keep abreast of the times—to have at his command an authoritative treatise on medicine giving accepted theories and most approved methods of treatment.

The text is classically expressed in concise language, easy to read, and admirably arranged for reference.

The work may be classed as a complete hand-book of the practice of medicine, and perfectly suited to its purpose.

A Text-Book of Physiology, Normal and Pathological.—For Students and Practitioners of Medicine. By Winfield S. Hall, Ph.D., M.D., (Leipzig). Professor of Physiology, Northwestern University Medical School, Chicago; Member of the American Physiological Society; Member of American Association for the Advancement of Science, etc., etc. New (2d) edition, revised and enlarged. In one octavo volume of 795 pages with 339 engravings and three full-page colored plates. Cloth, $4, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

The author says that the most notable additions—and there are many—to the present edition of his book are the sub-chapters on Pathologic Physiology, and we quite agree with him. It is evident that the author is a critical student of his own book, with, of course, favorable results to his readers.

The great and important point of this work which we emphasized in our review of a former edition, is the application of Physiology to Clinical medicine. The student will take this book into practice with him, and the practitioner requires it to brush up his physiology of disease as well as of health.

It is a great step in advance in the practical study of medicine, and no clinician can afford to be without it.

The present edition is greatly increased in size over the former, but the price remains the same, and is very small.

Superstition in Medicine.—By Prof. Dr. Hugo Magnus. Authorized translation from the German, Edited by Dr. Julius L. Salinger, late Assistant Professor of Clinical Medicine, Jefferson Medical College; Physician to the Philadelphia General Hospital, etc. New York and London. Funk & Wagnalls Co. 1905. pp. 205. 12mo.

This volume contains a history of the erroneous ideas and fanciful beliefs that have prevailed in the world with regard to illness and its cure, from the days of ancient Rome to the present time.

The statements set forth should not be construed as reflecting the development of theology or medicine at the time, but as the belief of the people existing in these periods. It is not a criticism of a system, but a criticism of man.

Physical Diagnosis.—By Richard C. Cabot, M.D., Instructor in medicine in Harvard University. Third Edition, Revised and Enlarged. With five plates and two hundred and forty figures in the text. New York. William Wood & Company. 1905. 577 pp. Octavo.

This volume presents in practical form an account of the diagnostic methods and processes required in the intelligent practice of medicine to-day. The author says that all he has described he knows by prolonged use, in connection with his position as Instructor in a great University. The author has wisely attempted to combine clinical diagnosis with laboratory diagnosis in the interest of more successful practice. The book is highly commended for its purpose.

International Clinics.—By leading members of the Medical Profession throughout the world. Edited by A. O. J. Kelly, A.M., M.D., Vol. II. Fifteenth Series. 1905. Philadelphia and London. J. B. Lippincott Company. 1905. 310 pp. Octavo. $2.

This volume seems to be one of the best of the series, and we are confident no one could make a better investment of two dollars than by obtaining this book. The articles are timely, and of great interest, and the publisher would gladly, no doubt, send to any correspondent a list of the contents for consideration if so desired.

There can be no question as to the value of this publication.

RETROSPECTIVE THERAPEUTICS

The Schott Method of Treating Diseases of the Heart and Blood Vessels is described by Anders (*Jour. A. M. A.*, January 14, '05). The Nauheim baths include the use of waters of various strengths and immersions of various lengths. At first the waters of the so-called thermal baths—freed to a certain extent from their natural gas—are employed; there follow then upon these thermal-sprudel baths, then pure sprudel and finally the flowing or "strom-sprudel" in selected cases. The latter possesses the greatest strength and pass through and leave the tub during the immersion. Nauheim waters contain from 2 to 3 per cent. of sodium chloride and from 2 to 3 per 1,000 of calcium chloride, besides various forms of iron and a large amount of carbon dioxide. In cardiac insufficiency a more vigorous systole is brought about with diminution in the size of the dilated heart and a reduction of the pulse rate. The usual accompaniments of an impaired circulation—in the lungs, liver, stomach and kidneys, as well as the anasarca—disappear with an increase of the heart's action. Not only are the baths directly efficacious; but there is indirect benefit through irritation of the cutaneous sensory nerve filaments and stimulation of the vaso-motor, cardiac and other nerve centres. The "resistance movements" are essential to the Schott method as practical at Nauheim; their principal effect is on the cardio-vascular rather than on the muscular systems. Anders from his observations finds that apart from the favorable action of the Schott method on the myocardium the improvement in the vascular changes was shown by the increased lumen of the vessels and gain in the volume of the pulse. Angina pectoris yields with comparative rapidity to this treatment; wherefore Anders judges that many examples of this disorder are probably dependent on abnormal vasomotor influences. This method is to be preferred to any other for restoring compensation in simple dilatation or in chronic valvitis. In cases in which digitalis has lost its effect, this drug was found to act well after a course of baths. The Schott method is most salutary in moderate degrees of arterio-sclerosis with embarrassed heart action. Atheromatous changes in the coronary arteries accompanied by angina were markedly relieved; several cases of exophthalmic goitre yielded to this treatment. Andres considers artificial Nauheim baths to be of doubtful value; success depends upon the favorable environment, relief from the strenuous life and from business cares and the careful regulation of the treatment, which requires suitable equipment and constant supervision.

A groundless fear was expressed by a Justice of the Supreme Court, who granted an injunction restraining the Health authorities from establishing a clinic for consumptives in Brooklyn. He declared that if the breathing of street dust containing the germs of tuberculosis is a menace to health, the more there are in the air the greater will be the risk, and that a clinic thus established would bring many more victims in the proposed neighborhood and would thus materially increase the danger to dwellers in its vicinity. One of the grounds upon which the injunction was asked was that property valuations would thus be lessened.

Conjunctival Irritation from Animal Emanations are discussed by W. C. Posey, (*Jour. A. M. A.*, June 3, '05), who describes three cases in which temporary irritation was induced by proximity to horses. In all three patients there was also nasal irritation; and in one similar symptoms were caused by handling a cat. These conditions are not referred to in the literature; but rhinologists, notably Kyle, have long noticed nasal irritation from animal emanations. Dr. S. Weir Mitchell has come upon many cases of conjunctivitis caused by proximity to cats. Kyle's theory of hay fever is that it is due to some chemical change in the mucous secretions; and he has found that in nearly all these cases the secretions showed an excess of the ammonia salts. This theory, while it may explain the susceptibility, sheds no light upon the nature of the agents which excite the irritation in the susceptible individuals.

Colds are common in cold weather because more impure air is breathed at that time and because the skin is kept tender with overclothing. People who live close to nature are exempt, declares N. James (N. Y. *Med. News,* June 17, '05). As far as the atmosphere is concerned, a healthy person thrives about as well in the city as in the country. The indoor air, however, is foul and the percentage of moisture is below normal, causing too rapid evaporation from the body, with dilation of the vessels. The daily cold bath, ribbed or meshed cotton, linen or ramie, not woolen underwear, and plenty of ventilation are advised with light weight bed covering and the abolition of steam radiators. (We should suggest that the bed clothing be always of sufficient warmth to obviate chilling of the body; and that hot bottles be put to the feet in severe temperatures.)

The Public House as a source of Phthisis is dwelt upon by Ransome (*La Rev. Internat. de la Tuber.*, January, '05). The mortality is shown by statistics to have been influenced in other ways than by the mere conditions of work; moreover, the high phthisis mortality among males in certain towns could scarcely be accounted for by the respective occupations of the two sexes. During the past twenty years the mortality rate from this disease has fallen both for males and females, yet the male rate is still the higher and it has also come down much more slowly. The author infers that the frequency of resort by men to public houses may have had something to do with these results. From a sanitary aspect the public-house is certainly open to suspicion as an infective centre. Such places are often overcrowded, dark, dirty, and ill-ventilated, many habitués are phthisical. Many in spitting aim for the cuspidor; most miss their aim, so that the sputum is deposited upon the sand or the sawdust. Ransome quotes Niven with approval. We should observe, however, that in many English "pubs" women are to be seen; oftentimes with their children, who play in the sand or sawdust while their mothers guzzle and gossip. We cannot believe otherwise than that the workshop in which the phthisical workman remains for so many hours is still the most potent of all factors, even more so than the home, in the development of phthisis.

The Profession of "Getting Hurt" is the title of an entertaining article in *Pearson's Magazine* for June by Theodore Waters. It seems that nowadays more than ever before, professional maligners are being exposed to the gaze of a rather "easy" public—was there ever one more so. Shyster lawyers and doctors without the code are also exposed; and the writer condemns the benumbed conscience of the public with relation to damage suits against corporations and municipalities. Many instances are cited showing the swarm of lawyers that beset every person whose injuries are reported in the papers. In Chicago, "by a curious coincidence, the clients of many of these law firms have employed the same doctor." In the suits on file against the City "one doctor was found to have been in attendance in over one hundred." No doubt other cities have like unsavory records, if the facts were but set forth.

In the management of labor absolute asepsis is essential as regards the patient, the lying-in room and the person of the accoucheur (*Medical Visitor*). There must be a careful diagnosis of the position of the child before the completion of the first stage; don't interfere with the labor except for cause; deliver the placenta whole; don't leave the patient until there is a good contraction of the uterus; after delivery, inspect carefully for lacerations, which, if made, should be repaired at once. And don't hesitate to admit a laceration, which should rightly be attributed to the infant's head. Besides, only the men who never make post-partum inspections of their cases, never have perineal lacerations; all the same such tears cannot remain concealed or unappreciated by the patient.

A new sign of "Graves Disease" is communicated to *Treatment,* May, '05, by E. Blake. "In a certain proportion" of cases "but not in all, the heart is found to work more rapidly on lying down than in the erect posture." This sign is best seen in recent cases. It is often absent in those advanced because the latter are drifting into the converse condition—myxoedema, which is characterized by Brady cardia.

How do you get it off? Dr. Keogh, in the *Northwestern Lancet* has his patients suffering from varicose veins provided with a zinc-glue bandage made of gelatin, glycerin, zinc oxide and water, heated in a water bath and applied to the bare skin with a painter's brush. Then a gauze or cheese cloth bandage is applied very evenly and not too tight. This is painted with a zinc glue, and a new bandage applied outside of it. Such a bandage may be worn up to two months without removal, the manner of which is not stated.

Trachoma has markedly increased among the immigrants arriving in New York Harbor. As a result, most of the patients in the hospital at Ellis Island are held there because of this disease. Dr. Stoner, Chief of the Marine Hospital Corps stationed in the port of New York, who has returned from a tour of inspection on the Canadian border, thinks that cases have been held up on the other side until a favorable opportunity was secured to rush them into this country, when "all were shipped over in a bunch." Most of the cases held up during June and the early part of July are from Mediterranean ports, where the disease is very rife.

The original habitat of syphilis is discussed by Orton (*Univ. Penn. Med. Bull.*, April, '05). There are three theories: That the disease prevailed in both the eastern and western worlds before Columbus' discovery; that it was unknown in Europe until Columbus' men took it back with them; that it originated in the old world and was brought by these voyagers to the new, together with some other more or less valuable blessings of civilization. Orton studied 127 skeletons exhumed at the Baum Village site, in the valley of a tributary of the Scioto River, states the *N. Y. Medical Journal;* of these twenty-one were found to have had lesions, judged after very painstaking study, to be syphilitic. Orton is so thorough as to distinguish between luetic lesions and those of osteitis deformans, a disease which he considers may possibly have been frequent in the days of the Mound Builders.

This gruesome material undoubtedly antedates the voyages of Columbus, and the diagnosis is made upon the following points: In long bones the changes observed affected chiefly the diaphyses, with a predominance in the bones most exposed to injury, and consisted of large exostoses and osteophytes with concurrent rarefying and condensing osteitis in the same specimens. In sixty per cent. of the syphilitic skeletons the bones affected, in the order of frequency, were the tibia, the ulna, the cranial bones and the sterum. We cannot then, if we accept Orton's deductions, assume that Columbus' men brought syphilis to a continent on which it was hitherto unknown. However, it is likely, as he suggests, that these sailors encountered a "strain" of the disease so potent that, when they returned, it gave rise to the Neapolitan outbreak, which was so virulent that men supposed a new disease had been transferred from beyond the seas. It was the same with Wellington's soldiers, who, in Spain encountered a brand of syphilis, to which they were unacclimated, much more virulent than the home type, with dreadful and unusual consequences.

Copper foil in the destruction of typhoid and colon bacilli in drinking water is recommended by Kraemer (*Am. Med.*, February 18, '05), who confirms the experiments of Moore and Kellerman. However, no proofs are adduced as to freedom from toxic effects when water thus purified is taken for any length of time into the system. Tap water was sterilized under three different conditions; distilled, filtered and unfiltered. 200 c.c. of water thus prepared were placed in each of twelve sterile Erlenmeyer flasks, and there was then added to each flask the same amount of fresh bouillon cultures of typhoid or colon bacilli. The number of organisms was then estimated in one c.c. of water taken from each of the flasks immediately after inoculation. Strips of copper foil 15 mm. wide and 18 c.m. long, were placed in six of the flasks and the organisms again counted after varying periods of time. The effects upon the samples with and without the copper foil were shown. At the end of four hours, the triple distilled water contain 7.665 colon bacilli; the unfiltered water *the same* number; and the filtered tap water 5.075. While in none of the waters in which copper foil had been placed was there a single organism to be found. Kraemer concludes that: intestinal bacteria are completely destroyed by placing clean copper foil in water containing them; the purifying effects of colloidal copper and copper sulphate are in a quantitative sense much like those of filtration; only the organisms are completely destroyed. Water may be purified for drinking purposes by placing strips of copper foil 3½ inches square in a quart of water and allowing it to stand for six or eight hours. Bolton (*Internat. Med. Mag.*, December, '04), in agreement with Nagelli and Miller, writes that copper wire and copper coins were in his experiments merely polished with ammonia and sand and then rinsed with water; otherwise pure copper and copper foil were used. There was no marked difference in the behavior of the germs toward the copper in these various forms. There is a clear zone, in some cases narrower, in others wider, and then a narrow zone where there is increased growth. This intensified zone does not have as sharply marked borders as with some other metals. In nearly all cases the medium around the copper becomes greenish and the foil becomes dissolved away, sometimes disappearing entirely. We should wait for further scientific results before making practical use of copper in the manner here indicated.

Etiology and Pathology of Gastric Ulcer.—In a masterly paper having this title, J. McFarland (*Medicine*) points out that this lesion may arise from numerous and very diverse causes, though in all probability this form of ulcer is not identical with those known to clinicians as the round or peptic ulcer. The etiology of the gastric ulcer requires the co-operation of two factors; the corrosive gastric juice; and a local loss of resisting power in the tissues with which the juice comes in contact. The former, it would seem, need have no abnormal composition and need not be excessively acid. The last resisting power of the tissue is the essential factor. This cannot be common to the whole gastric tissue, else the lesion could not be local. It must depend upon some condition operating upon a circumscribed area. It is very improbable that traumatism here comes into play, because experimental, operative and accidental injuries to the stomach generally heal kindly. The condition referred to must therefore be nutritional and vascular; but whether the vascular disturbance depends upon traumatic injuries of minute vessels resulting from overdistention, pressure, embolism, thrombosis, infection, intoxication or defective innervation remains to be shown. Probably all these have to do with particular cases. The nature of the defective tissue resistance is obscure and will probably remain so, as the normal immunity of tissue so long has done. One now no longer refers the immunity of the gastric mucosa to the alkaline mucus that covers it or to the alkaline blood circulating in its capillaries. It is simply the immunity of the normal living tissue to its own products. As soon as the vitality of the tissue is disturbed this immunity fails in part, when it is lost it disappears. That of the stomach to the action of pepsin is referred to the alkalinization of the hydrochloric acid by the blood salts; but how then are we to explain the immunity of the intestine to typsin, which is active in alkaline media? Both are due to the natural immunity of the respective cells to the respective enzymes, the nature of which is unknown. The association of gastric ulcer with anaemia is too frequent to be accidental. We know not however whether the anaemia (chlorosis) is the primary condition predisposing to ulcer by inducing hyperchlorhydria; or whether the chlorosis is the result of the malnutrition secondary to the gastric disturbance. Two complications are important to consider: hemorrhage; and perforation. Hemorrhage depends upon the erosion of a blood vessel; what particular vessel depends upon the position of the ulcer, its depth and its relation to and extension into other viscera? It may be unimportant when small vessels are opened, or may be fatal when good-sized arteries are eroded. Perforation may take place without symptoms, when preliminary adhesions form between the stomach and some neighboring viscus, or may at once pour out the gastric contents into the abdominal cavity; immediate surgical interference is then essential. There may—rarely—be escape of the gastric contents into the pleura or pericardium, the mediastinum or even into the lung. Rarely, portal thrombosis may be occasioned; and septic infections of the associated organs with pyaemia may supervene.

Tetanus and blank cartridges. We recently considered the mode of infection in this disease; and must here in addition allude to an important paper by *Dolley* (*Jour. A. M. A.*) in which the *B. aerogenes capsulatus* is stated to have been present in a large proportion of cartridge wads examined. Inoculations from wads into rates, guinea-pigs and rabbits produced also characteristic symptoms of tetanus. The powder of the varieties of cartridges examined was negative for both *B. tetani* and *B. aerogenes capsulatus.* Dolley's efforts to isolate B. tetani from the wads were unsuccessful. He considers there is abundant evidence from clinical observation and animal experiments, that the wads of certain blank cartridges contain B. tetani. It would appear, then, that not only from the dirt of the ground is tetanus to be feared but also from cartridge wads.

..**Fatigue antitoxine** is to be obtained by injecting into horses a specific toxine derived from muscles of animals which have been worked to death. W. Weichardt (*Deut. Med. Woch.*) pulled guinea pigs back and forth over rough ground until they were very tired and there came a sinking of the bodily temperature. He then obtained some muscular plasma under careful asepsis which, as compared with the normal flesh, tasted bitter and was reddish in color. Animals injected with it in any amount died promptly. He secured some of the dialysible matter of the residue, containing a toxine which in a few weeks became absolutely dry, and at low temperature remained active. Injected into animals it produced an antitoxine, consumption of which produces an immunity against weariness. They are so thorough, these German scientists, even to the point of sampling the meat of the guinea-pig; and so indefatigable —no likelihood of their ever requiring for themselves injections of the fatigue antitoxine which they so ingeniously evolve.

Tuberculosis among Negroes. The New York Health Department has set aside a special evening class for the treatment among negroes of this disease, which destroys half the adults of this race. The establishment of this class was due to the request made by the colored physicians of the city. All of the physicians in attendance are negroes; and there is a colored nurse. Treatment and medicines are of course free. Colored patients may also attend the other classes of the Department's clinic for the treatment of communicable pulmonary diseases, which are open daily from nine until four.

The causation of albuminuria in aortic insufficiency is classified by V. Leube (*Münch. Med. Woch.*) as follows: 1. a complicating perenchymatous nephritis may exist, as where the endocarditis is caused by diphtheria. This form is generally amenable to treatment, while the endocarditis persists. 2. There may be a general atheroma which also involves the renal vessels, leading to arterio-sclerotic kidney. This is especially common with aortic insufficiency. 3. When the energy of the heart sinks and the cardiac muscle undergoes fatty degeneration, stasis, followed by cyanotic induration, is found in all the organs. This occurs only in the later stages of cardiac insufficiency. Besides these there is another form of albuminuria, characteristic for the early stages of aortic insufficiency and not accompanied by syanosis, edema, etc. The urine is not diminished in amount, the specific gravity is relatively low, and the amount of albumen, hyaline and granular casts very slight; the marked variations in pressure in kidneys of this kind are responsible for certain anatomical changes. The walls of the arteries and capillaries are much thickened, so that the amount of blood carried to the kidneys is less than normal. The liver and spleen show similar lesions, but never the lungs.

Hypodermoclysis is most valuable in hemorrhage, shock, uraemia, puerperal eclampsia, typhoid fever, pneumonia and anaemia (W. P. McIntosh, *Med. Rec.*, June 10, '05). It is recommended in poisoning from illuminating gas, ether and opium, as it dilutes the poison and favors elimination; and in diseases attended with great loss of body fluids, as cholera, cholera infantum, enterocolitis. It is one of the best remedies in septicæmia. Saline solution should be used in puerperal sepsis, because of the leucocytosis it induces. It is to be used in diabetic coma, restoring consciousness and prolonging life. McIntosh has got good results in several cases of rheumatism, both muscular and articular.

Some notes on plague are given by A. M. Elliot, (*Lancet,* June 10, '05) based upon a study of some 9,000 cases seen in India. Local reaction after infection takes place not at the original focus, but in the nearest groups of lymphatic glands. The seat of election is the lymphatic system. Fowls, pigeons and ducks do not in his opinion contract the disease; rats, and next guinea pigs are the most susceptible among animals. Cats may contract the disease and may convey it to man. The channels of infection are: the skin and mucous membranes; the alimentary canal; the respiratory system. Inguinal buboes occur more frequently in adult males than in women and children; auxiliary in women than in men and children; cervical most frequently in children. There are three types of the disease corresponding to the channels of infection; bubonic, pneumonic, and alimentary. Either of these may take on a septicemic form, when death inevitably results. Elliot inclines to the belief that there are two forms of the plague bacillus —the acute and the chronic. The latter continues the disease from one epidemic to another, while the former givs the three types mentioned, each being entirely dependent on the channel of entrance, and occasioning a death rate according to the group or groups of glands primarily infected. The gravity of the disease is greater in auxiliary and cervical infection than in inguinal. Cardiac stimulants are the only effective remedies. As suppuration advances the plague bacillus disappears, wherefore Elliot suggests that the streptococci and staphylococci may be inimical to the bacillus. Antistreptococcus serum led to 13 recoveries in 21 cases.

Gigantism and Infantilism.— M. Pagniez observes (*La Presse Medic.*), concerning the former, that in addition to increase in height, there is also a want of harmony, both functional and anatomical. Infantile gigantism, although apparently a contradiction in terms, really occurs, consisting in the union in the same individual of the chief features of the two abnormal conditions. Amongst the most remakable abnormalities in gigantism is the extreme growth due to the epiphyses not being united to the bone shafts, and to persistence of the cartilages. Radiography demonstrates these conditions. Gigantism is often associated with a more or less puerile mental condition, with undeveloped genitals and hairy growth and with a tendency to genu valgum which are characteristic of infantilism. In giants there is inequality in the development of the different limbs—the legs out of all proportion to the rest of the body; and it is to their extreme length that the increase of height is due. The infantile giant is especially characterized by the persistence in middle life of one or more pre-adolescent conditions. An individual may in the first instance present features of infantilism and only later may the osteogenetic function, by its persistence, lead to the development of gigantism. The author considers the question—is acromegaly occurring in a giant a new disease or merely a transformation of a morbid condition already present? Much difference of opinion here exists. Much must still be observed and experimented upon before definite pronouncement can be made concerning the existence of internal secretions in producing these deviations fro mthe normal type of growth.

Railway spine is discussed by E. B. Angell (*Med. News*, May 6, '05), who believes that the cord is rarely damaged unless the vertebrae are dislocated or fractured. Concussion, sprain of muscles or ligament, general bruises or shock are insufficient to cause serious disturbance of the cord itself. Severe concussion may (rarely) cause hemorrhage into the cord. The symptoms are out of all proportion to the injuries received; the disturbance is of the mind, not of the body. The changing of the symptoms from day to day, and shifting of the areas painful to pressure, makes the diagnosis of a permanent lesion absurd. The disorder is functional. The initial disturbance is due to the shock or fear; "an imperative idea grows by what it feeds upon." The condition is rarely met with in those having well-disciplined minds. It is a delusion, and yet a true disorder; the disability is as definite for the time being as though a limb had been lost, and is one for which compensation may rightly be claimed. We are inclined to disagree with some of these opinions. The cord is made up of perhaps the most delicate tissues in the body, and the result of an injury may be structural (and not purely functional). Even the microscope might not be able to detect the pathological changes which might supervene. In coccygodynia, usually the result of traumatism, there is generally no appreciable anatomical lesion found; but it is a very real disease nevertheless and one often requiring surgical intervention, which generally brings relief. We are glad to note, moreover, that functional changes, such as are induced by shock, are beginning to receive the attention they are entitled to, and which they greatly deserve—for they are often more serious than structural lesions.

Cargile membrane, states *Medical Notes and Queries,* is peritoneum from the intestine of the ox, subjected to certain processes and finally sterilized—a thin, translucent almost homogeneous acellular material in many ways resembling gold-beater's skin. It is to be used between denuded peritoneal surfaces, over stumps, or any other wounded areas, to prevent the formation of adhesions, the membrane itself undergoing absorption in time. R. Morris reports favorable experiments with this membrane upon rabbits. A. B. Craig and A. G. Ellis, of Philadelphia, do not however make encouraging reports. Craig operated upon dogs in the peritoneal and cranial cavities and upon nerves and tendons; the membrane did not stay in place unless sutured. In the cranium and to around tendons and nerves the membrane appears to be of value in preventing adhesions. The chromicized variety longest resists absorption and in general gives best results. Microscopic investigation by Ellis showed that the membrane acts as an irritant, new tissue being formed around it in every instance. Its ultimate fate, however, is absorption. Phagocytosis, as a factor in its removal, is not demonstrable, which appears to be due to the action of lytic substances in the body fluids.

Diabetes in Railroad Employees has been studied by Navarre (*Semaine Medicale,* April 19, '05). On the line from Lyons to the Mediterranean 200 cases were reported by the medical officers of the road—an average of 3 per 1,000. The proportion is much higher among engineers and conductors than among other employees. Navarre concludes that vibrations and jars evidently favor the development of diabetes.

Facts about the Rose City are set forth by the *Sunset Magazine.* It is the queen city of the northwest coast. The chief exports are lumber, flour and grain. There is an annual wholesale business of $175,000,000; and an annual factory product of $50,000,000. Portland is called as above because of the large number of beautiful roses that are abloom in this northwestern metropolis all the year around. The warm currents of the Pacific render the climate exceptionally mild. It is in the first rank of American cities for health, the death rate being 9.5 per 1,000 of population. Finally, and an achievement really memorable because of the delightful manner in which it was done—the City of Roses has most handsomely entertained the American Medical Association.

Mental Hygiene in Childhood.—Hyslop (*Jour. State Med.*), considers the present age to be one of too early and too rapid mental growth and the early and severe taxes upon the resources of the brain to be undoubtedly at the root of increased mental disease. The first years of life should be mainly occupied by moral and physical training, the amount of mental cultivation of which a child's brain is capable being much overestimated. Compulsory education should not be enforced in at least one-half of the children at present, if the ultimate mental and physical welfare of the race is to be considered.

Diabetes mellitus is studied by E. P. Joslin (*Boston Med. & Surg. Jour.,* July 6, '05), upon the "fundamental idea" that rest to the diseased function will lead to an improvement in the organism's ability to attend properly to sugar metabolism. Knowledge of the carbohydrate percentage of certain standard foodstuffs is essential. That of bread and cereals is about 60; of potatoes and bananas, 20; of grape fruit and oranges, 4½ to 10; of cream and milk, 3 to 5. By means of these figures we may intelligently cut down the intake of sugar producing substances. The fermentation test for sugar will enable us to judge of the outgo of sugar in the urine and by measuring the quantity of food and having in mind its carbohydrate equivalent we can roughly estimate whether the patient is assimilating a portion of the carbohydrates eaten, excretes an amount of sugar equal to the amount of carbohydrates in the diet; or excretes more sugar than is contained in the carbohydrates in the diet. One must first establish the tolerance for carbohydrates. "If there is none the case is hopeless." To establish the point of tolerance —first free the sugar of urine; by reduction in the quantity of strict diet to an amount just sufficient for sustenance; or, if this does not suffice, by limiting the intake of albumen; or by means of a vegetable diet if sugar is still present in the urine; or, if these measures fail, by resort to a starvation diet. Next, the urine being sugar free, carbohydrate foods are slowly added to the diet, beginning with teaspoonful doses of cream —increased until the patient's tolerance has increased; one-half pint milk is then to be added and by the end of two or three months the patient will probably be able to take a quart of milk and cream without the appearance of sugar in the urine. Add now half a grape fruit; then, after a while, a tablespoonful of oatmeal. Many other valuable suggestions are given by Joslin. We agree with him that the establishment of a proper diet is by far the most important feature of the treatment; without this drugs are absolutely useless.

Marmorek's serum (*Jour. A. M. A.*, July 1, '05) was investigated by E. Lewin, who was sent to Paris by the Swedish government to examine into its production and action. After several months' study he became convinced that the results investigated justify further trials on a large scale. Marmorek has a record of 400 cases of whom fully 100 can be regarded as cured. The proportion in 100 cases of surgical tuberculosis was 80 cured or immeasurably improved without any adjuvant measures. (We consider that just as good and perhaps better results in both surgical tuberculosis and otherwise, are obtained in sanatoria and like institutions without the use of serum; although we are heartily in accord with experiments with sera.) On the basis of Dr. Lewin's report the serum is now being extensively tried in Sweden, Marmorek having sent 2,000 vials free of charge to that end. The serum is declared to have no toxic action, as it contains the antitoxins also.

An inverted appendix was found by Bremer (*Am. Med.*, January 4, '05) in a female, aged twenty-two, suffering from symptoms of acute appendicitis. The abdomen being opened, the appendix could not be found after prolonged search. Five months the patient reappeared with constant pain and tenderness in the right iliac fossa. The abdomen was again opened and on palpating the cecum an elongated oval body could be felt within its lumen. The intestine was opened longitudinally and the appendix, inverted, was found projecting from its attachment. The mass was removed and the wound in the cecum and colon sutured. A perfect recovery without return of symptoms resulted.

Diet in chronic diarrhea should vary with the type of the disease (*Friedenwald and Rubröh*). In the nervous type the patient should be encouraged to refrain from going to stool except at a certain hour. In all forms of the disease foods which tend to stimulate the bowel should be avoided. Coarse, indigestible foods, especially those containing a great deal of cellulose (cabbage, pickles, carrots, salads, turnips), should be forbidden; as also carbonated beverages including champagne and beer. Allowable foods are broths, tea, red wine, farina, rice and barley gruels. Raw milk usually is laxative; but it is constipating when diluted with limewater or brandy. It may increase the number of stools in certain cases. Rest and milk cures may result in recovery.

Nitroglycerin does not perceptibly affect high arterial pressure in man nor is dilatation of the blood vessels apparent. This is the result of Loomis's experiments with the sphygmanometer. 1-100th grain of the drug is too small to produce any effect in pathological conditions; 1-50th grain is a minimum dose. Even in large and repeated doses Loomis has never seen any ill effects; it is a perfectly safe drug. Its effects are very transient. It is said to increase the quantity of urine in chronic Bright's; but Loomis has discovered no such action. In angina, migraine, asthma and like conditions due to arterial spasm nitroglycerin may be beneficial in full oft-repeated doses. It will be of no effect in arterial sclerosis where the arteries are more or less changed.

In chronic suppurative otitis Duel insists upon thorough cleansing, careful inspection and feeling the tympanum over with a probe, as far as possible, for necrotic areas (*N. Y. Med. Jour.*, April 8, '05). If the perforation be inadequate for drainage, and should there be no necrotic area, a free incision should be made in the membrana tympani, and granulations in the lower aspect curetted away. Adhesions should be divided. Nasal or pharyngeal obstructions should be removed. The tympanum and external auditory canal should then be kept constantly irrigated and mopped with cotton pledgets. Drainage can be well maintained by the use of gauze wicks running from the incision out into a good sized dressing over the auricle, renewed once or twice in twenty-four hours. This is better than frequent irrigations. Should no improvement take place under this treatment, the membrana together with the malleus and the incus should be removed and any diseased areas in the tympani walls which can be reached should be carefully curetted. Should this fail, or should there be evidence of attic or aditus necrosis, or should the tympanum be filled with a cholesteatomatous mass, or should there be a history of one or more acute exacerbations with pain and tenderness over the mastoid, the "radical operation" is essential.

The causes of iritis were classified by Chevallereau and Chaillons (*Recueil d'Ophthalmologie*). Of 131 cases 55 were women and 76 men. Most of the patients were between twenty and fifty years of age. Syphilis had existed in 39 cases, gonorrhea with arthritis in 9, rheumatism in 7, tuberculosis in 9. The clinical forms were serous and plastic iritis. Syphilitic iritis has a special physiognomy. It is of a sluggish and painless form developing from two to eight months after the initial lesion. The most acute and most painful cases are those following upon rheumatism, particularly of the gonorrheal type. In 27 cases no cause was discoverable.

Students of post-graduate institutions, urges Ely Van de Worker (*N. Y. Med. Jour.*) should be compelled to pass special state board examinations before being loosed on the community as specially qualified surgeons and gynecologists. If this be done (and the plan is a good one), the examination should be practical rather than written.

MISCELLANY

The first Parisian hospital for eye diseases among the poor of that city, it is reported, was founded by Baron Adolph de Rothschild and opened in May of this year.

Overalls at ten cents was the price recently offered by a Pittsburg store; in consequence of which a dozen customers had to be take home in ambulances, states the *Post.*

A woman physician, Dr. Anna F. Donoghue, died during the dreadful hot spell in July last from overwork in attending heat victims. Her professional life had been one of genuine altruism, as the manner of her death attested.

Thirty per cent. of the poultry reared in England suffer from tuberculosis, declares an officer of the National Poultry Organization Society. There are districts in England where it is impossible to carry on poultry farming owing to the presence of arian tuberculosis germs in the soil.

Epilepsy and Menstruation.—Maguin (*La Trib. Med.*) cites the case of an epileptic woman in whom for fourteen years the paroxysms coincided with the occurrence of the menses. Since puberty the two phenomena never took place independently of one another, except during one pregnancy when both the epileptic attacks and the menses ceased.

The penalty for excessive enterprise was recently paid in New York by a man who was for the third time convicted of practicing medicine without being registered. A fine of $500 was imposed. He had, it seems, maintained an institute for producing doctors in a few weeks' time for a fee of $50; a massage establishment; and an office in which he gave ordinary medical treatment.

Dr. Palmer Dudley, of New York City, died in Liverpool, while on his way to the International Medical Congress at St. Petersburg. A few days before sailing he evidenced pulmonary tuberculosis. Both his physician and his wife urged him to give up his trip—but ineffectively; and the latter accompanied him. He was anxious to read an important paper before the congress.

Dying doctor burns account books is reported in the lay press of a Baltimore physician, in order that his patients, many of whom were poor, "should not be pressed for payment by his administrators." He declared that they knew what they owed him, and he had no doubt, would pay his heirs when able. Unquestionably then, he must have provided for his own family beyond the danger of want.

Prof. Brouerdal's observations upon adulterants give rise to the following example in mathematics. At breakfast a man takes milk preserved with formic aldehyde; at lunch he eats a slice of ham kept fresh by borax, with spinach or French beans made green with sulphite of copper; all this he washes down with half a bottle of wine cleared with an excess of plaster of Paris; in how many years will his alimentary apparatus be utterly ruined?

The King's Evil is described by Landouzy (*Presse Med.,* May 3, '05) as it was practiced in England and France. It was the common belief that kings were possessed by divine grace of the power of curing a scrofulous patient by touching him; this was done with much ceremony, the patient afterward receiving alms. The custom seems to have originated about the time of Edward the Confessor, and to have finally passed away with the Georges. Samuel Johnson was among the last touched, without benefit, however.

A biologic station in Greenland will be established by the Danish Government at the suggestion of a botanist. There will be buildings, motor boats, sledges, tents and other material for short expeditions, instruments, books, etc., all at an estimated cost of $9,400. The yearly running expenses including salaries, are estimated at $2,960. The geographical position of Greenland and the similarity of conditions with those of the northernmost part of this continent would suggest to Americans the establishment of a similar institution in Alaska.

A sanitary agreement between France and Italy has been instituted by the former and willingly accepted by the latter, by which both states shall recognize and admit the efficacy of sanitary measures taken in each other's country on board of ships coming from ports infected with plague and cholera. A ship coming from India, for example, and having been subjected to sanitary inspection in an Italian port, will be insured free pratique in a French port without further restrictions, and *vice versa.* There will thus be constituted a very real advantage to the commerce and navigation of both countries.

Inhaling cocaine fumes is described as a new "Tenderloin" vice in New York City. A victim was on this account moved to commit a burglary, his counsel declared; and this plea moved the court to impose a sentence of nine years in lieu of a customary one of twenty. It seems by the testimony that cocaine fiends have adopted the habit of "blowing the burners," inhaling a quantity of powder from a tube, supposedly a harmless remedy for catarrh, but which contains a large amount of cocaine and phenacetine. Quantities of this patent catarrh cure are said to be used by tenderloin habitues of both sexes.

The causes of miscarriage in most cases escape observation; commonly this condition is attributed to a trausmatism or to a fall on the stairs, etc. Bonnaire (*Presse Med.,* May 3, '05) adduces the etiology as follows: The ovum plays the part of a foreign body and is expelled. The change in it may take place by death, separation or other causes, though contained in a normal uterus; or whether the ovum be healthy or not it may be contained in an intolerant or irritable uterus. There may besides be faults in the woman's general health and vitiation of the spermatozoa. Bonnaire finds that traumatism varies greatly in its power to interrupt pregnancy according to its intensity, the seat of its application, the age of the fetus, and the like.

Some border-line psychoses of alcoholism are set forth by F. P. Norbury (*Jour. A. M. A.,* March 18, 1905). Treatment is successful in the majority of cases where the individual co-operates and learns his limitations. Minor psychoses and "polyneuritic psychoses" marked by amnesia, paramnesia, and confusion with marked hallucinations, are rare in acute alcoholism, but may appear in adolescents of neurotic type; they are more frequent after adolescence and up to forty or forty-five years, and occur both in continuous drinkers and occasional delinquents. The prognosis is variable, depending on inherited frailties and moral developments. Early treatment is advisable as a preventive of major psychoses. Treatment is successful generally.

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NOTE.—Dr. R. is a well-known physician and surgeon of Riverside, California.

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SELECTIONS

Poisoning by Orangeine. J. L Miller, Chicago, reports in the Journal A.M.A., June 24, a death from orangeine poisoning. The patient had been warned of the danger but persisted in using the powders. Miller calls attention to the danger to the public from having free accesss to such a remedy, which is advertised as harmless. The public will use it without the careful dosage which a physician would require, if he gave acetanilid. Analyses of orangeine show it to contain a large proportion of acetanilid.

Entero-Colitis and Cholera Infantum. Antiphlogistiue produces results in cholera infantum that can not be obtained in any other way. Pain is reduced, restlessness is soothed and the tossing, moaning patient falls into a quiet restful sleep. And why not! A moment's thought will convinee you that, since the intestines and possibly the peritoneum are inflamed, an application which so rapidly reduces inflammation in other parts of the body must have a beneficial action here. Consider also that in this case, acting directly upon and reflexly through the solar and hypogastric plexuses, it relieves the shock which is so invariably a serious part of the symptom complex. Apply hot to the abdomen about one-eighth inch thick and cover with absorbent cotton.

The New York Post-Graduate Medical School and Hospital announces its entrance upon its twenty-fourth year, with unexcelled facilities. It is not only the oldest school of its kind in this country, but the oldest organization in the world. The school is exclusively for members of the profession, undergraduates not being admitted. The Faculty which is enormous, consists of many of the best known and able practitioners of the city. Any physician who desires to brush up, should obtain a copy of this announcement, in order to learn what may be obtained here. It is certainly a great showing. Over 10,000 physicians have matriculated here since the opening of the school.

Liquozone Illegal. E. F. Ladd, Food Commissioner for North Dakota, in a recent communication, calls attention to the character of the product being sold under the name of Liquozone. In Bulletin, No. 63, was shown the character of this product and the false statements and claims made by its manufacturers. The claim that the virtue of the product is due to oxygen is false. Liquozone contains from less than 1 per cent. to more than 2 per cent. as shown by various analyses, of sulphurous and sulphuric acid. He considers the indiscriminate use of this product as dangerous to the lealth of the community. Notice is therefore given, that on and after August 1, 1905, any party in North Dakota who sells, offers for sale, or exposes for sale, Liquozone, will be prosecuted by this department under the laws of this state. The public is furthermore warned against the use of this dangerous product and as evidence quote the following from the Medical Times and Hospital Gazette, of London, for July 1st, 1905: "Dr. Wynn Westcott, the Coroner for the Stoke Newington District, concluded on Monday last his inquiry into the circumstances attending the death of Constance Adelaide Sheppard, aged three years and ten months, and Dorothy May Sheppard, aged two, daughters of a tobacconist's assistant of Stoke Newington. The evidence given at the previous hearings, referred to in our issue of the 17th ult. showed that the father obtained a free bottle of Liquozone, and doses of half a teaspoonful were given to the children for several days. Both were taken ill and died. The jury returned the following verdict: 'The children died from exhaustion after vomiting and diarrhoea, set up by taking Liquozone. We wish to add our deep sympathy with the parents, and also think that some representation should be made to the proper authorities to have some better supervision over these patent medicines.' In view of the facts, the jury could not have arrived at any other conclusion than that death was due to the nostrum, and it will be the duty of the Government to carry out the suggestion of the jury if the public are to be protected against the recurrence of such fatalities."

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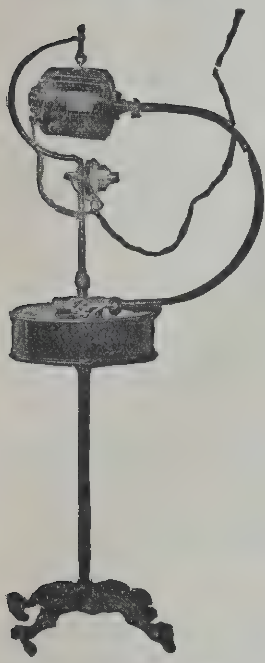

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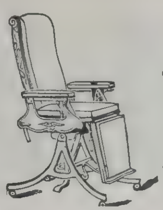

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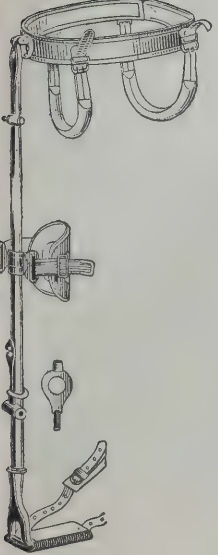

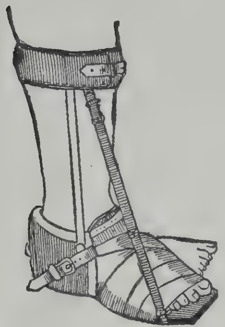

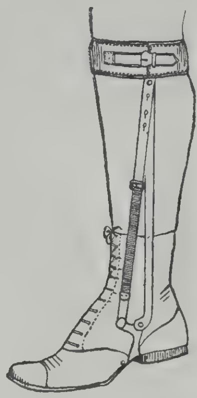

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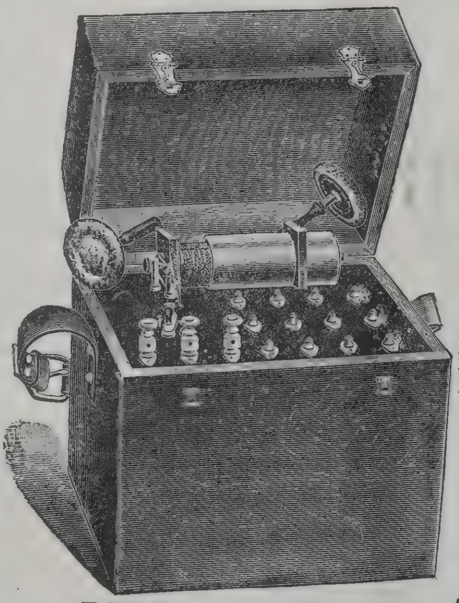

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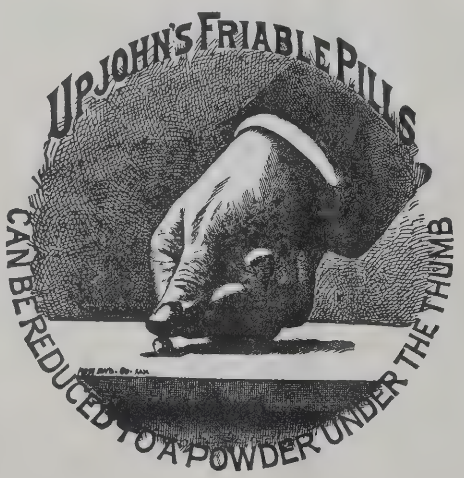
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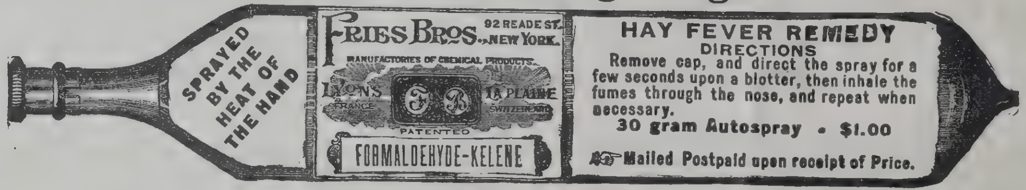
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Tartrate, in grams, per litre	1.85
Ash	2.24
Acid, calculated as sulphuric	3.13
Acid sulphurous	none
Acid salicylic	none
Saccharin	none
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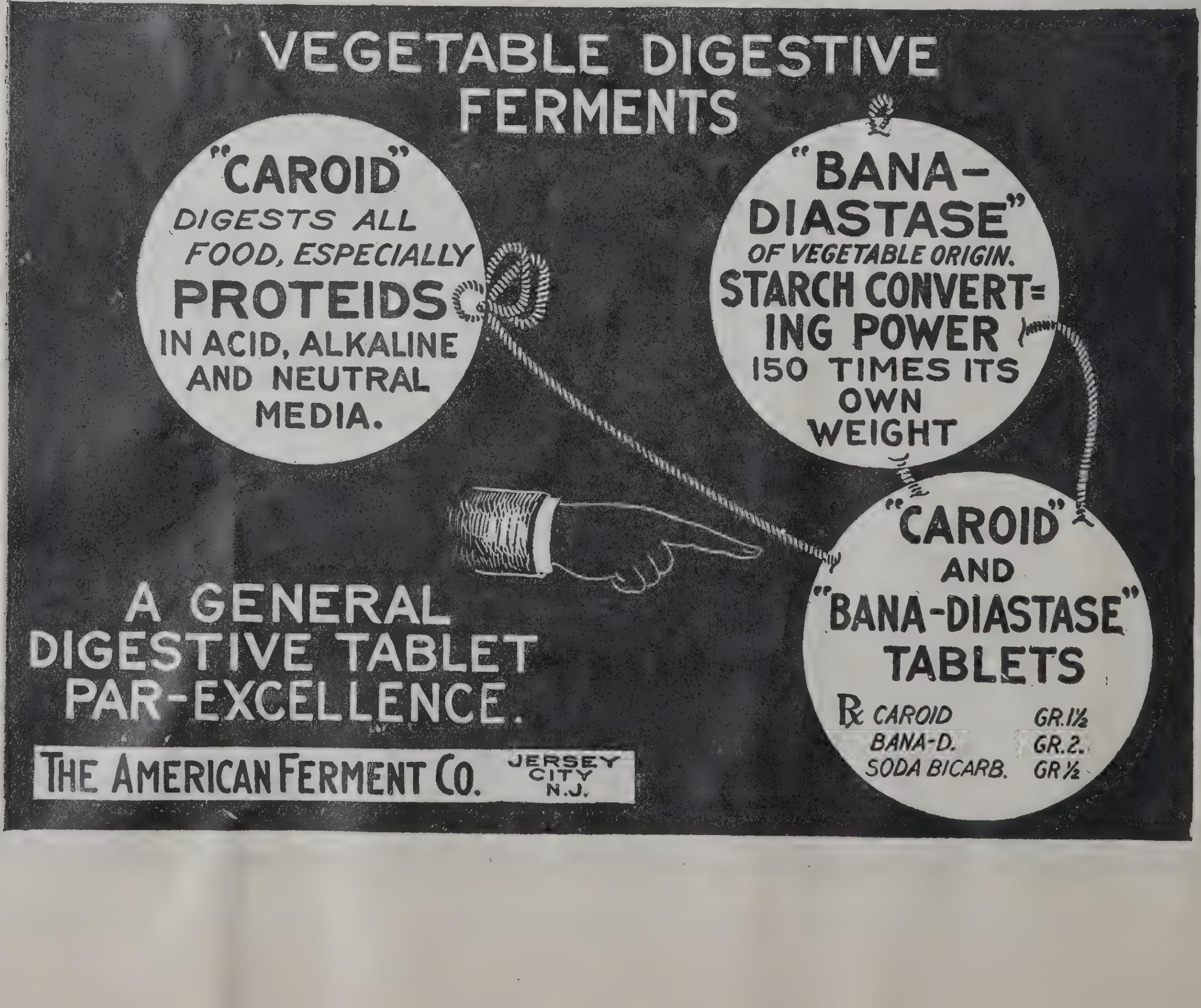
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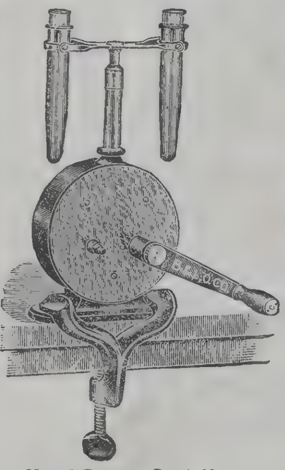

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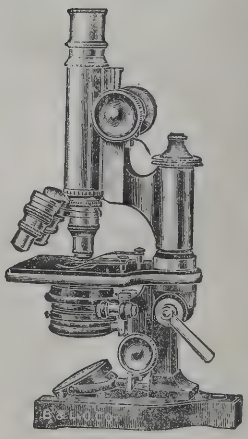

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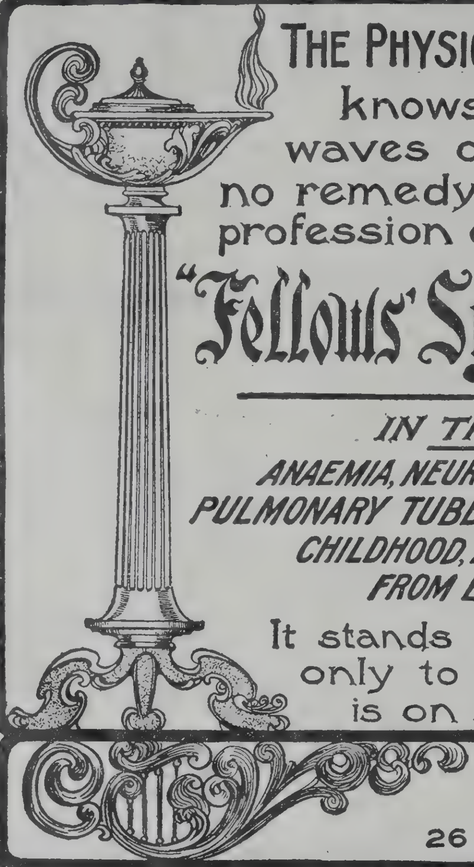

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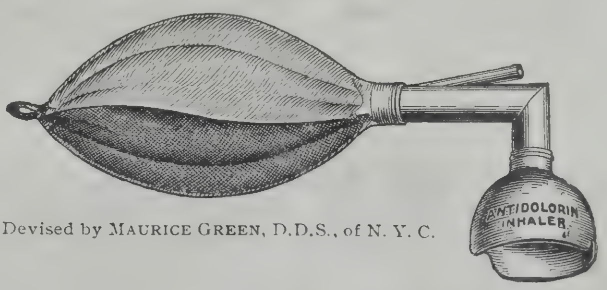

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I never fully appreciated the true worth of the Genuine Johann Hoff's Malt Extract until I witnessed its unfailing help in the case of my wife, who when she began its use was a debilitated anaemic neurasthenic. The late Prof. D. Hayes Agnew was dining with us, and in conversation with my wife, on the subject of her health, said: "Mrs. Welchans, have the doctor get you a case of the Genuine Johann Hoff's Malt and use it freely and liberally. No small wine-glass doses, but a good half tumbler full or even more, every meal, and you will not have cause to regret it." I got her a case at once, and the marked benefit she derived from it has made me a warm friend and advocate of the Malt, as it also increased our gratitude to my lamented and honored friend. I hope that the virtues of the Malt Extract may be become known to all physicians.—Geo. R. Welchans, M.D.

Prof. H. Braun, of Leipsic University, says regarding beta-eucain: Heinze and I have shown that the effect of eucain, endermically administered, is entirely equal to that of cocain. There is no pain or specific irritation even when 10% eucain solutions, made with the aid of heat, are injected. A distinct diminution of sensibility is effected already by 5:1000 solutions. Eucain anaesthesia is slightly less persistent than that of cocain; 1½% solutions of the former have the same endurance as 1% solutions of the latter. Strengths greater than 1% anaesthetize beyond the zone directly infiltrated, but less so than cocain. On mucosae and nerve trunks the anaesthesia is a little slower and somewhat less intense than that of cocain.

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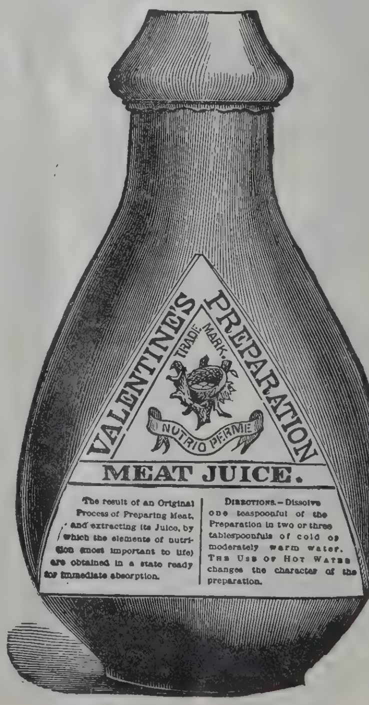
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WHAT IS DISEASE?

BY F. B. BRUBAKER, M.D., MIFFLINBURG, PA.

IT would be a stroke indeed timely should some apostle of Esculapius arise and tell us why disease actually exists; neither on the other hand do we believe it would be in the least antagonistic to that modern school of so-called scientists, the Eddyites, or Faith Curists, who claim that there is no disease. Indeed the distinctive line of demarkation between the doctrine of possibles and impossibles has never appeared to us so minutely drawn, the line that separates them being but tried and separate phases of a physical duality; the one protoplasmic, the other nervous, but unfortunately for the latter, no demonstrable force, or condition, holds ready service to defend, while to the former flocks a compound of cellular structure be it gland, muscle, or bone, always tangible. Looking at that broad and beautiful principle of waste and repair on which nature has chosen to preserve from immediate death her organic forms; together with the great function of elimination, for, as is well known, within the animal body is elaborated such materials of tissue change as speedily (if retained) serve to terminate life, yet on the whole, and following to its legitimate conclusion the ebb and flow of existence along these lines, man could, and would, die from old age only. The average strength of a man showing a curve whose apex is at the age of 35 years, approximately showing that an adult of 17 years should without difficulty be able to raise a weight of 277 pounds; at 20 years, 317 pounds; at 31 years, 440 pounds, descending to 339 pounds at 40 years; 328 at 50 years and 246 at 70 years. Inquiring as to the cause of this curve, for which the above table, howsoever imperfect, stands, elicits the well-known reply that all healthful metabolism depends in the ultimate upon the perfect balance of waste and repair of nutrition, this being dependent upon a variety of causes, an example of which is to be found in the deposit of earthy salts within the body with oncoming age; anatomical investigation and experiment show that one of the chief characteristics of old age is the deposit of earthy matter of a gelatinous and fibrinous character in the human system, carbonate and phosphate of lime, mixed with other salts of a calcareous nature being found to furnish the greater part of these earthy deposits. Man beginning in a gelatinous condition he ends in an osseous one. Of course these earthy deposits which affect all the organs naturally interfere with their functions; for whether of heart or arteries there can be but one result; which in all cases relates to the circulation of the blood, upon which nutrition depends, and without nutrition there is no repair of the various parts or organs of the body. It has been found by analysis that human blood contains compounds of lime, magnesia, etc., upon which the deposition depends at all ages of the individual; but it is only with oncoming age that they are deposited. In early life they are thrown off, but age has not this power. To my mind this being an apt illustration of causes acting from within the body and disease producing these being for the most part structural and relating (as in the case before us) to an altered blood supply to a part or organ and therefore directly to nutrition; being infrequent in occurrence and largely the result of age. Youth, especially those healthy born, being almost entirely exempt from death-dealing causes acting from within the body, the results of injury, etc., of course, excluded. So that it must be at once apparent that were these the only causes of disease, man would largely round out a threescore and ten existence and die of old age, but how far from realizing any such result, as is well known a very large percentage of deaths occur among infants and children which so far reduces the average age of man as to bring it little above half his allotted time, about 32 to 35 years with, of course, fluctuations for different periods, so that the question naturally arises, Why is this? and the answer is at once plain, when we reply, Because of causes acting from without the body, which, exclusive of injury, direct or remote, relate to the great world of micro-organisms or other injurious extraneous substances introduced. Turning our attention to the natural world, we find that whether we examine animal or vegetable we behold that a great many more individuals are born into the world than can possibly survive, nature being extremely solicitous lest any of her forms perish that she preserves them either by throwing about them extra protection, or else leaves them to struggle for themselves, but gives birth to many more than can possibly survive; but if we look deeper we can plainly observe that in all cases the former, or extra, protection, is but a gift or reward which leaves all early cases of the same form to come under the rule and arrange themselves under Class 2, there being no exception to the rule that every organic being naturally increases at so high a rate that if not destroyed all available space would soon be covered by the progeny of a single pair. Linnaeus calculated that if an annual plant produced but two seeds and their seedlings next year produced two and so on, in twenty years there would be a million plants of this one kind, but this, as we all know, is a greatly underestimated calculation, for no plant is so unproductive as to give but two seeds. Mr. Hassal, for instance, counted the pollen grains of a dandelion flower and found them to be 243,600, while a peony contained the astonishing number of 3,654,000 grains, while on the other hand an editor of one of our botanical magazines estimated the ovules in a certain flower and found that each ovule was ensured impregnation by the production of 7,000 pollen grains. If any one will carefully examine a human placenta he will find it made up of a number of smaller ones coalesced and contained within one membrane. It was once my privilege to have delivered a woman in whom the placental attachment did not exceed the surface of a silver dollar, the remainder being covered with the amnion and therefore denied union by the villi of the corion, and yet the child was as any other strong and healthy born. Now these facts prove conclusively that nature is extremely lavish and always careful lest any form perish. Seeing then that not only does she supply the natural elements for great and continuous fertility but likewise as a result of the same many more forms both animal and vegetable are born into the world than can possibly survive; it becomes but natural to inquire why one form does not overrun the earth and deny existence to others, which we know in nature never occurs. In a state of nature almost every full grown plant annually produces seed, and among animals there are very few that do not annually pair, hence we may confidently assert that all plants and animals are tending to increase at a ratio that would soon overrun every available foot of land surface and stock every station in which they could exist, and that this geometrical tendency to increase must be checked by some form of destruction at some period of life, this destruction ever maintaining that beautiful balance so freely observed throughout nature. In what do these checks so universally present consist? Look at one of the most vigorous species; by as much as it swarms in numbers by so much will it tend to increase still farther. Now the nature of the check to the inordinate increase of species is, in the first place, a large destruction of seeds, and in the second place, a continuous struggle with other forms for the same ground which is at all times overstocked, while among animals it is largely related either to the obtaining of food, or the serving as the same, but we are extremely ignorant on this subject and in most instances cannot ascribe the whole cause which relates and inter-relates to all forms of life and its harmonious balance. But it is not here that we are very much exercised in the present essay, all we wish to accomplish on this point being to carefully note that these facts belong to organic forms in a natural or unmolested state, I mean unmolested by man, checks to inordinate increase in a state of nature relating as we have above seen to causes in which a life struggle with other forms is ever prominent; together with the food supply of each species which seems to act as pursuer and pursued. But with the advent of domestication the picture changes; with oncoming civilization these undeniable natural facts have become modified and changed. The tomato no longer spreads solely over the small island of San Domingo, its native home, its seeds disseminated by birds or what not. The potato was a native of Chile and Peru in its primitive state and was carried to Spain from the mountains near Quinto early in the Sixteenth Century; thence to Italy and Austria, to England in 1586, becoming a field crop in Ireland and Scotland about 1732. Indigenous to Chile and Peru it grew wild and contended with other and numerous vegetable forms for supremacy, but for several hundred years the potato has been protected by the hand of man. Domesticated, in short. Now what has been said of the tomato and of the potato can likewise be said of all our garden vegetables and not only with our vegetables, but likewise with our cereals, wheat, etc., which at one time grew wild supposedly as a grass on the banks of the Nile in Egypt. This is also true of trees; all domesticated kinds, as the peach, plum, pear, apple, etc., having been evoluted and domesticated from a wild state, the same being true of all our domestic animals, man being their protector and preserver. Now it is well known that man in a state of nature, the wild tribes of a country, partook largely of the same struggle for food and space as did the forms of life, both animal and vegetable, with which they were surrounded; consequently their greatest mortality was evident as the results of continual warfare, tribe upon tribe, or from the dire effects of scarcity of food which so often occurred among them owing to the uncertainty of the chase and also to the long and severe winters in many localities, many perishing thereby. These causes when coupled with affections resultant on exposure and largely inflammatory, which from the mode of life of primeval man were many, together with infanticide, and sometimes cannibalism, in times of famine which occurred as with the Terra del Fugians by the killing and devouring of the old women, seems to have formed about all we know of causes relative to savage mortality; indeed these being quite sufficient to cause that necessary check to increase found everywhere. Now it must be entirely evident that as man became civilized and extended to certain vegetable forms by reason of their value as a food unequal protection when matched with other vegetable growths, that he affected or began to effect the economy of nature in a two-fold way. Firstly, he extended to his favorite vegetable forms such protection which would give them an undue prominence, or position, over their immediate competitors. Secondly, he at the same time gave to their competitors an unequal or unnatural check, this being entirely necessary, of course, to give precedence to his favorite forms, but at the same time giving rise to an unbalancing of that great and beautiful equipoise of nature, but nature is ever resourceful and quickly came to the rescue by establishing such laws of compensation for her disturbed economy as entirely to compensate her loss, these causes being various. However we are loathe to believe that she resulted to strenuous measures at once because the necessity was not urgent, for civilization and domestication, which in the present meaning relates to protection, has been a matter of slow growth, which in its infancy was confined to spots widely separated, but with the passing of time and the advance of civilization over a country and over the earth, little by little she was compelled to resort to measures entirely her own and necessary for the maintenance of her supremacy. If we should attempt to prove in this essay that in all cases where disease arises from causes from without the body, it is parasitic, I fear we should perhaps overstep the limits of the same and thereby lessen the effect of other, and more important facts; but bold as it may seem at first sight, doubtful as it may appear, there is much evidence in its favor. Thus it would seem that nature did not change her plan in the oncoming necessity for self-protection, but merely enlarged the scope or meaning of the same, for, as we found with animals in a state of nature they perish either from lack of food supply, or as serving as a food supply to other forms, thus being each in its turn parasitic; for no form can live at the expense of another without being so, and all organic forms so live. It would therefore appear that nature merely extended her operations as the necessity arose, by the evolution of hitherto unknown forms of life, destructive to domesticated forms; this seeming doubly so as we have no history of any form being devastated by disease in its purely aboriginal form, that is, until interfered with or molested by man either directly or indirectly, at that time, of course, man being in a state of barbarism, but yet far enough advanced to extend to nature as it were, a selective hand, however rude. Let me repeat, therefore, that in a purely aboriginal state we have no evidence that disease in any form was added to those causes already given and serving as checks to each organic form. This does not imply that savages are exempt from disease, neither that wild forms of vegetable life are free. Indeed it is astonishing how rapidly disease spreads when once introduced into, or among wild forms of life in either kingdom, but any examination of this kind and any statistics gleaned therefrom must of necessity have been obtained by contact with man in a higher state of civilization and without this very contact we are absolutely devoid of the same. We do not claim that disease in a purely aboriginal country may not have acted as a check to increase, before even aboriginal man extended to nature a selective hand, all we maintain being that we have no evidence of its having so done, much less proof of the same, and, as can easily be discerned by any one making the experiment, was not necessary as a check because of other and entirely efficient causes. That disease is geometrically proportionate to the state of civilization and the newness or wildness of a country, there can be but little doubt, and much evidence might be given thereon; take for example diseases of the vineyard and known to all growers of the grape as Downy Mildew, Powdery Mildew, and black rot, together with the root louse. Now, more than one-half the grapes of the United States are grown on the Pacific coast and most of the varieties grown in this region are derived from a single species of grape (the vitis vinifera) which is believed to be a native of Asia but which has been so long and so extensively cultivated throughout Europe that it has become widely known as the European vine. Now the varieties in the eastern United States have, with hardly an exception, originated from the native North American species. Now mark! the root louse upon the native North American vine does little or no damage, but becomes a deadly parasite when transplanted to the roots of the European species. The same may be said of powdery mildew and downy mildew, which do little damage to our native vines, *but which have swept over vineyards of the European vine like wildfire.* Now this single instance, of which many might be given, not only proves the force of our previous remarks, but likewise shows that inevitable law of evolution which proves that the higher the form, the less stable it becomes. If I have succeeded in making plain to the reader that disease, of no matter what character, and no matter what organic form attacked, be it vegetable or animal, has been, and is, the result of undue favor and disproportionate protection afforded the form (which in nature is never gained but ever so slowly, and always by natural means), whereby a large and disproportionate number of forms are brought to life and protected, thus unbalancing the economy of nature and calling for some form of compensatory regulation, I shall have succeeded as I had hoped. It is within the memory of every man of 40 or 50 years of age how the Colorado beetle or potato bug appeared in the East, and I need not dwell on the appearance of other and various forms of insect life which have proven themselves destructive to one or another of our vegetable productions, and I ask the question, Where did they come from? Surely, in the economy of nature, somewhere. Now, it is my firm conviction that the more artificial the life of man becomes, that is, the more man surrounds himself with those things and operations whereby nature is disturbed in her quiet workings, the greater will be the number, if not, perhaps the more severe the form of disease processes whereby she guards herself from being overthrown. Man is but a dreamer when it comes to at all accurately estimating or appreciating the extreme delicacy of adjustment whereby nature holds together in one grand whole the various and everywhere varying forms of life to which she gives birth. It is a well-known fact that one of her immutable laws is progress, this being at all times manifest by the disappearance of old and wornout forms of life, and the replacement by other and improved forms. Now in the operation of this law it is likewise apparent that whole species may perish, that death may overtake the whole of a certain animal or plant, but one need but speak of the operation of any such law when immediately the question arises, How is this loss compensated? Seeing that nature is so finely balanced, herein comes the necessity for variation, for variation means change, and variation with change, as applied to nature, means improvement in the long run, but it means more than this: for, as we have beheld the entire disappearance of organic forms at one end, so we observe the appearance of new and hitherto unknown forms, this being even true of micro-organisms whereby disease produced by them varies, and especially so of insects and other disease producing organisms, the old becoming modified, and new forms of life evolved. On a certain acre of ground a farmer wills to raise a certain cereal or vegetable; he prepares the soil, limes and manures it, and extends to it generally such various measures be they of addition or subtraction whereby he hopes to best fulfil his plan; he harvests his crop and it is bountiful, the next season he plants again of the same, and receives a large reward, the third year he sows but he notices that although he has fulfilled the same necessary precautions as before and even with more care, yet his crop is failing; he examines his seed and to all appearances it is as before, but it is only to the unaided eye that it so appears, for the microscope reveals that an egg has been deposited within the very heart of the grain or other vegetable; he has never heard of it and his neighbor has never heard of it, but it is there. Just such things have occurred thousands of times, perhaps in other localities, but only now having extended to his. On that same acre of ground in its wild or aboriginal and unbroken state perhaps grew 100 species and varieties of plants instead of one as now, each struggling for supremacy; enough seed perhaps from that 100 species, and varieties, to plant 1,000 such acres, so we behold the early destruction of forms. Then a race began and many perished of those that had taken root, but only the strongest survived; but when man interfered and extended his protection to one plant only, he saved all the seed and planted promiscuously therefrom, and gradually it became diseased.

Now, the more the economy of nature is disturbed in a protective or selective way, the greater will be the number of disease processes compensatory; this is certainly witnessed in our yearly increase of hitherto unknown parasitism and is likewise beheld where successive crops of a like kind are raised on the same ground, rotation of crops being in most instances, a preventative. Now the exact relation of cause and effect, whereby are given birth hitherto unknown forms of life the same being parasitic (so much so that nowadays and owing to the widespread unbalancing of nature man has come to consider preventive measures as absolutely necessary to success), is not positively known, positive as is our belief that in all cases these same things act as necessary checks to the inordinate increase of a species. One thing is, however, sure, and that is that the greater the complexity of organization, the less stable becomes the organism, and this complexity concentration affords, so that, whether by the continuous planting of crops on the same soil, some element necessary to its growth and healthful organization is continuously abstracted and thereby the organism weakened, or whether the condition is analogous to close inbreeding in the animal kingdom whereby stability of organization is lost, is not known; suffice it to say, however, that by reason of the same and arguing along the line of human susceptibility to disease, parasitic organisms are evolved, whose life-work is to destroy these same weakened forms, it being in no wise improbable that this same weakening is brought about as a direct result of the application of both causes above enumerated. Certain it is that whatever of weakening is found in organisms is compensatory in all cases for something gained, the same being for the time being advantageous, therefore, whatever predominance is gained one form over the other (except that slowly gained, and by means of natural selection), by this same weakening opens the door not only to lessened fertility, but likewise to a greatly lessened chance of growth in the struggle for existence and, consequently speedy extermination. Herein then comes disease. It is well known that vegetable matter is a very prolific source of putrefactive germs, so much so, indeed, that a tuft of hay is frequently used in experimentation, or air, dust laden, from the loft. Now, while it needs no comment at all to prove that the organisms that give rise to putrefaction are in and about the hay, yet a curious fact is that practically so far as the hay is concerned they are harmless, therefore it becomes but natural to inquire what is the meaning of their presence in and about the hay, seeing that they do not produce putrefaction in it, but are capable of producing it in any organic solution, be it vegetable or animal. If now we should follow in sequence the disposal of grasses left to a state of nature we immediately see that it is here and not in the artificial condition of hay that the bacteria are employed, hay being nothing more than desiccated grass in which because of the absence of moisture these same organisms cannot work, while in a natural state they are employed in the presence of sufficient moisture (the same being properly combined), in the natural destruction of the same. The splitting up of the complex molecules of the hay into those of more simple combinations and in this way redistributing to elementary bodies composing it to be again appropriated by other organisms. Now, it is plain to see that left to work out this process in a state of nature vegetable life offers to the atmosphere very little or no dust laden with organisms. It is only when they become dry grass or dry vegetable matter that they become detached and entering the atmosphere become widely diffused. On the supposition of this hypothesis germs are always, and only, the product of decaying organic matter, and this fact seems proven. Following this, and as we have in the case of the hay which left to nature, and in a natural state, and in no way interfered with by the hand of man utilizes its attendant germs by breaking up into suitable material for reabsorption, gases or what not, and in the presence of sufficient moisture. Thus, in a twofold manner or way being protective to man: firstly, by being utilized in the economy of nature by serving as disintegrators of matter and preparing it for reabsorption and an endless cycle, and, secondly, by being unable to work except in the presence of sufficient moisture which at the same time prevents their being taken up by the dust of the atmosphere. But do all germs find so suitable employment? and are they pathogenic or non-pathogenic organisms out of place? Arguing along the line of inquiry here propounded, let us see in how far our theory, which presupposes that all germs are but organisms out of place, which employed in a state of nature in all cases do her bidding, which primarily was in all cases beneficial to all other forms of life, let us see in how far our proposition is tenable. It is interesting in the first place to note that in the wide and varied process of putrefaction and which results as the life-work of whole groups of different varieties of bacteria, albuminous bodies form a large part. Now the action of these bacteria on such substances is analogous to what takes place when albumens are subjected to ordinary gastric and intestinal digestion. In these circumstances, therefore, the production of albumens, peptones, etc., similar to those of ordinary digestion, can be recognized in putrefying solutions, and what is more, some pathogenic forms have even been found to have a similar digestive capacity. Here, then, we have a strict analogy between an organic vegetable substance, as grass, which by reason of the work of putrefactive organisms is broken up into simpler compounds, suitable for reabsorption as food to next year's crop of grass, or other vegetable production, while on the other side, we have albuminous substances, as meat, being split up in the stomach of man in precisely the same manner and which immediately serve as his food, and these two processes serving as it were one end, an identity of cause with a similarity of result startling as it is true. But this is not all, for we find upon examination, that some pathogenic germs engage in the same process, and seeming to prove our assertion that even they are but misplaced benefactors.

In the second place we have distribution. Now on the principle laid down germs being the direct outcome of decaying organic matter, and disease being but a compensatory check to increase of population, vegetable or animal must necessarily in no small measure govern increase and action, it following that the greater the population the higher the natural death rate. If we attend to the geographical distribution of germ life we find that great differences exist even within very limited localities, for instance, in certain parts of London it being possible to pour sterilized fluid from one flask to another with the result that but a small percentage will become turbid, while in other parts every tube will be infected; and the same may be said of any other large city. Differences likewise being noticed for different times and places through the whole of a country, or district. However, when we come to calculate these matters, and especially as they relate to cities, it can in nearly every case be ascribed to ventilation, or air motion, it being a well-known fact that an optically dust-free air is likewise a germless one. But it is as we journey mountainward or seaward that the experiment beautifully sustains itself, the tops of mountains above the line of perpetual snow, and the ocean's expanse, ship free, being germless. This fact, however, not being in itself a guarantee against infection, inasmuch as the germ necessary to infection, the peculiar organism necessary to the evolution of the same, may be the inhabitant of one's own body. In conclusion, therefore, and seeing as in the undeniable facts before us that distribution follows closely in the train of organic proportion, that an intimacy of relationship is maintained between the same, that seeming disproportionate distribution is largely the result of atmospheric change, that centres of population for other organic forms are likewise centres of population for germs, that proceeding mountainward as vegetation lessens, and as animal life lessens, so do germs, we are forced to the conclusion that germs not only possess a life history of their own, but likewise that the same is akin to all other life, and lastly, that they relate to the economy of nature as benefactors; preparing for elementary redistribution that wealth of organic life which is annually destroyed, and that disease is in all cases but the presence of these normal little workers out of place.

THE VALUE OF THE MICROSCOPE IN DIAGNOSING LESIONS OF THE KIDNEY.

BY HENRY TAYLOR, M.D.

Part II.

With this basis for my ideas of treatment I will describe a typical case of kidney involvement. This patient caught cold two weeks before being seen; the next morning he awoke with headache, puffiness of the face and the eyelids; since then he has been unable to work, complaining of nausea; and he noticed that his urine looked "like red wine," but he has noticed a change in the amount passed. On the third day his abdomen, legs, and ankles were somewhat swollen, with some vomiting, and latterly pain in the muscles of the right leg, but none in the back. There was no disturbance of vision. With such a history I examined the urine, finding it smoky, acid, specific gravity 1010, albumin rather more than one-eighth per cent.; sediment considerable, brownish in color with much blood and pus, many renal cells, some of which are brown granular and fatty; casts hyaline, fine, and brown granular in some epithelial casts with blood adherent. He had but very slight edema when seen; the cardiac apex was in the fifth space just inside the mammillary line, and the area of cardiac dulness was moderately enlarged. At the apex and into the axilla, and heard distinctly over the whole cardiac area, a loud systolic souffle, replacing the first sound, is heard, with accentuation of the second pulmonic sound. He passed thirty ounces of urine in the first eighteen hours after seen; during the early part of the night he was restless and complained of severe headache, and next morning he was given a dose of salts to move his bowels but vomited them; then he complained of some headache; at ten in the morning he complained of inability to see distinctly, and at eleven he had a convulsion, with pupils moderately contracted, some cyanosis, frothing at the mouth, and general clonic muscular spasms lasting about three minutes, with a copious involuntary discharge of urine, wetting his bedclothes. Between one and three he had nine convulsions lasting from one minute to three minutes, each less in severity; between the convulsions being either comatose or semi-comatose.

Here is an acute nephritis, the diagnosis perfectly clear, and the only question being whether it is an acute nephritis or an acute exacerbation of a chronic affair. In determining that question take into consideration the previous history of the patient so far as it can be obtained, his physical condition in general, the condition of his heart, especially the left ventricle, the tension of his arteries, and the examination of his urine. There is nothing in the clinical history to indicate that this was an exacerbation of a chronic affection, for, apparently, the condition dated from two or three weeks before from exposure. The evidence from the heart is equivocal, because we find the evidence of a valvular lesion, there being a certain amount of enlargement with a systolic souffle at the apex transmitted into the axilla, and an accentuated pulmonic second sound. This mitral lesion being, in all probability, not referrable to the renal trouble, although in an older person, with a history of previous attacks, or the suggestion of more or less long-standing trouble in the kidney, the cardiac condition might be attributed to the renal. Here it is probably independent; the patient once had an endocarditis which has run its course leaving a regurgitation through the mitral orifice.

The urine is more indicative of an acute exacerbation of a chronic affection than of an entirely fresh attack, for the low specific gravity of the urine, the relatively small amount of albumin it contains, and its quantity are significant. The convulsive attacks, however, are clearly uremic in origin. The flow of urine was apparently sufficient—thirty ounces in the first eighteen hours, with seven grains of urea to the ounce, over two hundred grains of urea in that eighteen hours. Here were premonitory symptoms, although they were short, and not very well defined; some headache the night before; next morning some vomiting, but it followed the indigestion of the concentrated salt solution, which sometimes causes vomiting itself, but there was a little headache and indistinct vision, and very suddenly came these fully developed convulsions, with coma. Those muscular twitchings are premonitory symptoms of uremia in many cases, and will suggests the danger of convulsions. The indistinct vision, and subsequent loss of sight was uremic amaurosis; it is entirely unassociated with any retinal changes, and the results of ophthalmoscopical examination are negative; often the response of the pupil to light is maintained, which shows that the trouble must be above the corpora quadrigemina, referrable to the ophthalmic centres in the occipital lobes; the effect of the uremic poison upon the higher nervous centres of vision, the vision being restored as the toxic agent ceases to manifest its effects. Here the pupils were moderately contracted during the time of the convulsions and the coma, not dilated. His temperature was normal when seen. Here is a clear-cut case of uremic convulsions and coma, but there are cases in which the diagnosis is extremely difficult, and it may be impossible for a time to determine their exact nature. Let us take the uremic convulsions; convulsions of uremia are spoken of as "epileptiform," being similar to those of true epilepsy, but are of different origin; and are often hard to diagnose from epilepsy and hysteria. The epileptic paroxysm seldom has much premonition, for while sometimes it comes on preceded by an aura, starting from one point or from another, it is generally of brief duration, only a matter of a few seconds or minutes, and the epileptic convulsion is frequently single and followed by stupor and there is usually complete unconsciousness, but the epileptic paroxysms may follow one another in rapid succession the patient not emerging into clear consciousness. With no history and the patient seen for the first time in the convulsions, unless there is edema, and unless a sample of urine can be obtained, it may be impossible to make a diagnosis, especially if one epileptic convulsion succeeds another, if you have a condition more or less well marked of the status epilepticus.

To diagnose from hysterical convulsions remember that in a great majority of cases the female sex is exposed to these and there is no edema and no elevation of temperature. The pupil generally responds to light, and during the convulsion the movements are wild, for there is apt to be crying out, not simply before the convulsion, as in the case of the true epileptic paroxysm, and the tongue is seldom bitten in the hysterical convulsion, and the patient throws herself about a great deal, cries out, often attempting to bite herself or bystanders. An examination of the urine will settle the question. In the hysterical convulsion the sphincters are not relaxed, no involuntary passage of urine or of feces as in an epileptic or a true epileptiform convulsion.

In alcoholic coma there is complete and absolute muscular relaxation, a flushed countenance, a strong smell of alcohol about the individual. But remember that a person suffering from coma of any other variety may have taken a drink of whiskey previously. In opium-poisoning there is the contracted pupil and the slow respiration, and in both opium and alcoholic coma there is no modification of temperature, while in sunstroke there is deep coma, flushed face, stertorous respiration, etc., but the temperature is the diagnosis, 105°, 106°, 108°, 112° F., but the diagnosis between uremic coma and apoplectic coma may be impossible, yet in young people the chances are aginst apoplexy, and the apoplectic attacks of the young are generally due to embolism, nd the coma following them is generally not prolonged, while the apoplexy of older individuals is frequently from hemorrhage. In chronic Bright's disease, especially in the chronic forms, apoplexy not infrequently occurs, for degenerated arteries under high tension favor the occurrence of hemorrhage. Addison thought that in the character of the respiration a distinction could be made: that there is a higher pitched respiration in uremic coma than in the coma of apoplexy, but it is too fine a distinction for use. Meningitis, an inflammatory affection, will generally show a modification of temperature, with the previous history of severe pain in the head, photophobia, with the head retracted. In hysterical coma under strong stimulus the patient can be roused. Again, there is no loss of control over the sphincters in hysterical coma, and the reaction of the pupils is maintained; and if you can get the history, it is likely to be that of a neurotic individual, and there is likely to be some cause for the hysterical attack. For an examination of the urine it may be possible to get enough urine to test for albumin by wringing out the clothes of the patient. In accidents there is the history or the marks of the injury, such as the patient has fallen down and struck on his head. But in this case an acute process was going on in the kidneys before the appearance of the convulsions, which were preceded by fair signs of danger. This attack came on when the kidneys were apparently doing sufficient work—thirty ounces of urine containing seven grains of urea to the ounce in the first eighteen hours under observation. Dropsy also was very slight, for an acute uremic attack is quite as likely to occur in the absence as in the presence of notable dropsy, the dropsical fluid containing urea in considerable amount and holding it outside of the circulation stored in the cellular tissue or in the internal cavities, whence it may exert little direct influence on the nervous centres. What is the explanation of a nerve-storm like this, where the excretion of urea appears to be sufficient? A great many mistakes have been made in the diagnosis of these conditions from the reliance on the fact that the flow of urine has been apparently sufficiently free; that therefore the attack could not be uremic; in these cases the flow of urine must have been deficient. People's ideas about the amount of water which they pass is rather vague; if they pass water frequently, they think they pass much; and if they pass it infrequently, they are apt to think they pass little. If a patient should secrete urea at the rate of four hundred grains a day but does excrete only three hundred and fifty, an accumulation of fifty grains per diem is going on, the effects of which accumulation must sooner or later appear. This indicates to you how important it is to note the specific gravity as well as the daily quantity of urine. The latter may be sufficient while the solid constituents are diminished, and in the event of either a small quantity or a low specific gravity a quantitative determination of urea is necessary.

The toxic agent in uremia has been much discussed, and a good deal of criticism has been made as to its being urea; for example Frerichs thought it was carbonate of ammonia, while experiments threw doubt an the theory that it was urea, because it has been found that large amounts of urea could be fed to animals without producing any trouble; but those animals had healthy kidneys, and as soon as liquids were withheld, the explosion came. Sufficient fluid to dissolve that urea kept the animals well, but limit the amount of fluid, and accumulation took place, but whether it is urea, or whether it is a combination of toxic agents, is uncertain. Landois applied the various urinary derivatives to the naked brains of animals, suggesting that kreatin and kreatinin play a rôle in producing convulsions.

This patient had a passage of six or eight ounces the day of the attack involuntarily. The next day fifteen ounces; the week later sixty-four ounces of urine passed; the specific gravity being 1009; rather low, but the quantity of urine is considerable. The temperature, pulse, and respiration are normal. The prognosis is good, as far as recovery from this particular attack; if his kidney trouble is acute, he is likely to recover entirely; if a chronic underlies the acute process, recovery will be only partial. With regard to the prognosis of uremic convulsions in general it is ordinarily better in an acute case in a young subject whose other organs and tissues are more likely to be in relatively good condition than in the case of a person past middle life with a chronic interstitial nephritis and wide-spread arterial lesions.

I gave him one-fourth grain of pilocarpine; then the hot-air bath was rigged up as rapidly as possible; that is, a cradle, and tin-funnel going under the bedclothes; or a stovepipe will do. Rig up a funnel somehow, get a lamp under it, and conduct hot-air under the bedclothes raised over a cradle, the clothes tucked in around the neck. In fifteen minutes the skin had not begun to act much, nor had the salivary glands started up, those being the two organs especially affected to perspire freely. To move his bowels, I gave him one-thirtieth of a grain of elaterin under the skin, wishing to see whether that would work. That was given and repeated without effect. Then he was given two drops of croton oil on the tongue, and the same dose afterwards repeated. He was unconscious; the drugs were put in from some other avenue in the stomach. It was just put on the tongue, with subsequent free movements. During the last convulsions his pulse got rather feeble, perhaps partly under the influence of the prolongd hot-air, partly under the influence of the pilocarpine. So he was given some hypodermics of digitalis and brandy, and during the last convulsion a little ether.

If uremia be due to the accumulation of these toxic principles, of course the clear indication is to get rid of them, and under these circumstances—I am speaking of acute uremia, you are precluded giving things by the stomach; but there are two main avenues of vicarious elimination of urea—the skin and the intestinal tract; for the skin there is pilocarpine, which can be given hypodermically—one-fourth of a grain, and repeated in fifteen to twenty minutes if the effect of the first dose is not pronounced, remembering the danger of the effect of the drug on the heart. Watch the pulse; do not leave the patient. The action of the pilocarpine can be promoted by the use of the hot-air bath. If nothing of that kind is at hand, the hot wet pack. You can sponge the patient with hot water, and wrap him up further in blankets, and that will set the skin acting very freely in a short time. The best thing to give for the bowels is croton oil, for it produces watery discharges, draining serum into the intestinal tract, carrying with it urea. It can be given on the tongue, and will be absorbed from there, for although croton oil is an active vesicant when applied to the skin, it does not produce as much effect on the mucous membranes as on the skin, and it really makes very little difference if the patient does have a blister or two on his tongue in comparison with the possibility of saving life; for the convulsions themselves ether can be used; and the ether has its application perhaps especially if the pulse is weak, being a very good cardiac stimulant. Bleeding is a valuable remedy in some cases of acute uremia, attended by coma and convulsions; its application is much wider in those than in the chronic cases; in the chronic cases the patient can less well spare the loss of that amount of blood. If the case is chronic they have that much less to recover on; in drawing the blood a certain amount of urea goes at the same time in the blood.

I am now feeding this patient on milk and keeping his bowels open. He has had some jalap powder since he has been able to swallow, and cream of tartar water to drink; hunger is not to be indulged too quickly; I will keep him on exclusive milk diet, and keep him warm in bed for some days before adding to his diet. Under the microscope there were uric-acid crystals with beautiful epithelial casts.

Tuberculosis among negroes was discussed at a conference held under the auspices of the Charity Organization Society in New York City for the purpose of forming a committee of leading colored persons, chiefly physicians and clergy, to assist the general committee of the society in the prevention and treatment of this disease among negroes. The founding of a special sanatorium for consumptives among this race was urged. urged.

REPRIEVE FOR THE GUILTY BACILLUS.

BY GEORGE B. H. SWAYZE, M.D., PHILADELPHIA, PA.

CANNOT something less ambiguous, less speculative, but withal more tangible and effective be wrought out for the theoretic province of the "pathological" bacillus?—the ever-enduring bacteria that for thousands of years had perpetuated functional and relatively harmless existence, unrecognized and uncared for, but which by specialized dogma has now been sprung into enthusiastic, even strenuous vogue for learned exploit and medical dismay? For a trill of voicing years the discovered bacillus (the undiscovered may yet be propagated!) the discovered, by use of lenses that magnify and of eyes that weary and waver through strained pursuit, has been made the chosen "germinal" purveyor of all human infections. To bacilli have been assigned the peculiar function and prowess of inaugurating the serious diseases incident to human happening among the masses of mankind.

Every deviation of bacillian form is construed as signifying to what class the demonstration belongs and to identify the symptoms and name of the ailment, to decide how a diagnosis shall be determined, whether or not the hardships of quarantine and personal disinfections and burning of family goods to ashes shall be enforced, and a boycott of crowded shut-in households publicly announced by the yellow danger sign of pest plastered to the gates and door posts—with a yet possible patrolman in brass-buttoned uniform stationed across the way to officially emphasize the public awe! Such is the portentous impressment of the vigilant energy of salaried Boards of Health upon public sensitiveness and apprehension, because of the discoverable curve, or swell, or gaunt straight outline that supposedly defines the quality of contagion imputed by a few investigators to the bacillus family of human ferments to control the embarrassed situation.

What is overtaking the natural civil rights of the sick and their families and friends? How many of us have yet squarely stopped to bestow a little enlightened thought on the phenomenon? In the daze of fallacious revolution, among the million medical readers and thinkers of the world who perhaps pliantly glean the latest but to follow the latest, what is the exceptional number of those who have manfully paused to inquire where this imposing usurpation of the arena of practical medicine, with the machinery of State bills passed by legislative incompetents through political pull, is running to advantageously beyond the certainty of the salaried positions thereby vouchsafed? Who of us have profoundly thought it over? Has practical medicine suddenly concluded that it has no antebacterian past worth standing upon?—no healing crusades worth cherishing?—no experience of success to conjure by when cases of home diseases were relatively even less frequent than under the present restrictive régime, and when cures were equally numerous and satisfactory? Does it imply an absolute lack of analytic perception and courage in the general medical mind that no surprise is aroused or manifested at this unchallenged revolutionizing "Invisible Empire" of "germ" pathology, shaped to fit the curve or swell or link of microscopical blebs of bacillus ferment incident to waste secretions or exfoliations of disordered human tissues?

Since the vogue is on to arraign the bacillus as germ-cause of every important disorder, the weapons of crusade are obtrusively pressed against the bacillus specially and radically. By what means? By isolation of the sick, by commitments to the impure, the drugged unsavory air of the Municipal pest house, by quarantine of residences and all found in them, by cremation of clothing and bedding, by saturations with deadly sulphur fumes, by bleach of blood-smiting chlorine and other gases, by forced detention of well persons for happening to be caught at suspected quarters, by rabid inoculations of the blood of patients and family friends with long-kept animal serums, commercially known as antitoxins to nullify the imputed but undemonstrated virulence of the innocent bacillus spawned into existence temporarily by preceding conditions,—all this rigid discommoding campaign ostensibly conducted to "stamp out" the particular disease supposedly induced by the bacillus amuck the malady. And, nevertheless, all the diseases incident to humanity continue to seasonably recur the same among the living with the usual cycles of moons and circumstance. Through courtesy of the chief medical inspector I obtained these relevant official statistics. In Philadelphia, for the six years immediately preceding the adoption of this rigid bacterian repression by the local Board of Health, the average deaths from diphtheria was four hundred and ninety annually. For the equivalent six years immediately following, when these germicidal tactics were pressed into official vogue, the deaths by diphtheria in Philadelphia numbered the significant average of one thousand and seventy annually. Such is an authentic demonstration of the futility of fighting at the helpless bacillus, instead of kindly recognizing in the environment of cases a more natural and effective cause of toxicity. Has diphtheria or any other common disease been "stamped out" by these germicidal crusades against bacilli? In striking deep at these invisible, intangible objectives with mighty weapons of supposed annihilation, is not vitality worsted and outdone, and the death rate accordingly swelled by martyrdom to "science" in nearly every modern expression of disease?

Shall we begin to think it over? Is it not time to start the wonder as to how all the world's population, from Adam to Solomon, from Solomon to Brigham Young, and thence to our apostles of the "pathologic" bacillus, ever managed to pull through the history of the parturient ages to such mighty magnitude, although in blissful ignorance of this infinitesimal "germ" bubble brought forth locally by the fermentative process of diseased tissues or organs?—this froth spore of variable form that has been exaltedly accounted the master dethroner of human life! How shall the colossal anomaly be reconciled even to itself?

Is it not our duty to examine the doctrines of what is advanced as new for acceptance? In any practical review of this tangle-tongue bacillus problem no display of erudition is called for. Release from the tyranny of a false idea is of more worth than brilliancy of origination. The plain warp and woof of textile construction constitute the woven web as it comes from the loom—the chemical relations of every fibrecell "cuts no ice" with the practical weaver who delivers the right goods. According to scriptural record, in announcing the stupendous processes of Creation, the Lord resorted to no confusing overstrung verbiage. "Let there be light." "Let us make man." Richer contrasts of phrases are presented by our scientists of spores! "Of the micro-organisms, as result of migration, the gonococcus produces more suffering than all other bacteria." "The streptococcus are always present in the human mouth after the second day from birth." Hark back: "The pathogenic streptococcus of erysipelas suggests the importance of surface cleansing by asepsis." By this the erysipelas seems to have poisoned the "streptococci" that are harmless in the mouth from birth! There is little consistency in the flighty antics attributed to the four hundred and eighty-nine varieties of bacilli acknowledged by their studious prophets. Inconstancy is the natural synonym for bacterianism. Dr. Meade Bolton has intelligently affirmed: "One of the most striking features of bacteria is variability. The anthrax bacillus sometimes becomes so distorted in shape as to be unrecognizable under the microscope." Great Indian is the bacillus in its gyrations between innocent sport and its murderous war dance! What underlying influence makes this significant difference? The character of the disease which it attends as a spontaneous product determines the degree of virulence in the active quality of the spore. We perceive how difficult it is to hold the bacillus to the shape supposedly indicative of the disease that the fluctuating bacillus must identify. Hence again its unreliability as a diagnoser.

Moreover, besides fascinating the human mind, bacteriology may capture the reason also. A few years ago I was an interested witness of a riskful operation for strangulated hernia on a delicate lady patient of mine, removed for operation to a prominent Philadelphia hospital. In his abstraction, an aspiring young assistant of his chief leaned with forearm upon my feebly breathing friend who was then unconscious in anesthesia. To recall the young man, I gently touched his hand, remarking: "You are bearing weight upon the patient's chest." With the thrust of resentment the assistant indignantly retorted: "Now, doctor, you have infected me! I've got to leave this patient till I go and re-disinfect myself!" My soul instantly swelled with contempt for such purblind bosh! "Great Scott of Covenanters!" I thought. "How many, even including capital operations, have I successfully performed in my country practice of earlier years, without the fuss and froth of such salty flummery!" The surgeon-in-chief quickly glanced at my face—perhaps he divined the trend of my silence—but possibly, also, by the doubled sanitation of the germicided assistant, the operation eventually proved very satisfactory. The assistant, however, was not engaged at the cutting end of the work. He handled the benumbing anesthetic. He was none the less steeped with the Ritual of bacteriology. The compromised charge paid by my patient for the operation was two hundred and twenty-five dollars besides the hospital costs; and I have anon wondered if of this an extra fifty had been added to the bill because the caution of my finger upon the back of the assistant's hand had infected his mind. Selah!

Whenever we, as physicians, by passive consent, crown the bacillus as Emperor of all diseases, we should note also through what visionary straits his Majesty leads our idealism. It is frankly admitted that the variegated shapes of the inconstant bacillus have been ardently pursued by interested votaries.

Its fashions and habitats have been exhaustively studied. It has been ably and prodigiously written up by its expositors of physical science. But interpretations of science do not compass everything. Science has its myths. Elementary science was the prompter of Darius Green's flying machine. Elementary science is the prompter of all the modern "airship" contrivances that come to little or nought except the transient entertainment of their enterprise and poetic float in a patch of tranquil atmosphere;—but which can navigate no cross winds, outride no tests of gales and storm. It is proposed to arrest the bacillus by antitoxins,—a picturesque proposition that will best bear framing in gilt by side of the airship. Novels, novel schemes, are pretty inventions of genius. But who ever accomplishes any real conquest over the bacillus except the sanitarian who combats uncleanness, routs out disease-breeding conditions and rectifies breathing-air impurities by which sickness and its bacillus are generated together? Let conservative thought awhile make diagram of the lines of advance by which the knighted bacillus must wend its victorious way directly to the accessible spot, and at the yielding moment, to inaugurate its "pathological" pillage of imputed infection. Dare we not ask—is it the inherent prestige of the bacillus, or is it the degenerate soil of spoiled blood that decides the character and extent of physical casualties by the invasion? If the latter, instead of posing as cavalier, does not the obedient bacillus assume the rôle of valet? If we espy a tadpole in a puddle, do we blame the tadpole for making the mud hole wherein it was hatched? If we abolish the mud hole, are there any more tadpoles and mosquitoes produced or nested there?

Too many names of disease are tagged to the impotent shapes of the versatile bacillus. There is the "bacillus of anthrax": comparable to an invisible sightless globule of spontaneous fermentation originating from degenerated tissue. How could it discover its way beneath a man's clothing and possess enough energy to bore an entrance into the skin deep enough to there breed a flaming boil as big as a red pepper? Preposterous! But given a plot of degenerate blood, focusing toward a local spot of inflammation, for the exit of its pus element, may we not logically find the boil with its dead core attended by the bacillus of disintegration till the crater of the local tumefaction has been cleared of debris and the parts healed? Again, if such microscopic spore of ferment entered the blood current, that spore would be instantly neutralized out of existence unless the blood was in sufficient state of degeneration by which a boil might naturally be developed. Hence the bacillus is entitled to a reprieve as the alleged boil maker. Yet again, in the dicta of bacteriologists, who bend all reasoning to the curves and links of dogmatic theory, cerebro-spinal meningitis is solely produced by an invader-bacillus that somehow finds way to the tissues surrounding the medulla oblongata. How can the assigned bacillus beat a way to this work of devastation and stop just at the seat of life? Where does it come from? Is it inhaled with the breathing air? Trace the journey it must steer from a lung cell to the investing serous tissues that sheath the brain medulla without any disabling effect to itself or to other tissues through which it must float! What shrifts the human mind will stoop to for the sake of bowing obedience to theory! By newspaper report, two lads recently died in Philadelphia of cerebro-spinal meningitis. They had been frequenting certain cold water public baths. By hobby theory nothing but a bacillus could be thought of as physical cause for these fatal attacks, and an official examination of the baths or swimming basins was ordered "to look for the germs." None were discovered—and official wisdom drew down her blinds! The daily and nightly home environment of these boys, the natural effects of repeated chill by excessively repeated cold plunges, were nonchalantly overlooked to seek the emptiness of the suspected bacillus.

By what caprice does a bacillus assume one form to colonize a diphtheroid throat?—another to burrow a typhoid bowel?—another to riddle the tuberculous lung?—another to flash a burning flame over erysipelatous skin or peritoneum? These are sane problems that merit better than any compromise solution by arbitrary rule of revolutionary proclamation. It is to be yet hoped that the day for independent thought need not be chained to any pathologic band-wagon because a new trumpeter is passing. If one mind has ability to think and frame postulates, why should not another? The Lord did not entrust all wisdom to one type of intellection. Is there a problem? If so, are not both sides of the problem worth examination? A capable physicain will study the natural defects of his patient's constitution and daily environment before he formulates his lines of treatment.

This cursory study would be rudely curtailed in scope if it failed to include passing reference to the latest specious hummer—the distinguished mosquito—which germists feign to elect as "envoy extraordinary" of the yellow fever bacillus in the 1905 New Orleans epidemic. Under all circumstances the mosquito tribe of insects is a teasing nuisance that deserves to be repressed in every available way for the comfort of mankind. But to obliterate the mosquito means the unthinkable obliteration of every green thing and stagnant pool and purling stream on earth. To the "stegomia" mosquito has been imputed the guilt of spreading yellow fever since the first gun of the Spanish-American war in Cuba. The mosquito has a digestive apparatus and belongs to a hungry horde seeking food. It thirsts for blood. With its long proboscis it can puncture the skin and suck blood from mankind. But if the mosquito can carry enough infection to destroy a man by what we recognize as yellow fever, the question occurs, inasmuch as the mosquito is incomparably small, why are not all of that breed in yellow fever districts extinct by self-collapse from autoinfection? By the mosquito theory of yellow fever infection we must consent to infer that instead of drawing blood from the skin of man, the suction process is in reality reversed, and the mosquito pumps into the man the contagion that breeds in him the yellow fever. This inference is too improbable for honest credence. How could any mosquito contain enough septivity to kill a man and be itself alive? Where would the mosquito obtain the virus on which the mosquito could thrive but by which the man would die? Where is the apparatus that holds the virus which the mosquito pumps into man? Does the mosquito, betimes whizzing about in the air, scatter from its wings the contagion that infects the people unto death? Preposterous! Any decent atmosphere, a ray of clarifying sunlight, would annihilate any bacillus wafted about by a fly's wing—if that were all. But why the suspected mosquito? Has every case that has come down at New Orleans, or elsewhere, with yellow fever, a visible fester on the skin as evidence of a poisoned mosquito-bite? If a man's blood be defensively in good condition, a mosquito puncture for the extraction of a half drop of blood, drawn outward, would be and is of no moment. Then where does mosquito evidence win this deadly repute? Right here:—as the coincident concomitant of the neglected, fermenting, pest-laden, rotting filth that breeds disease naturally in unhealthy moist climate in hot weather. There we will find the blood-depraving element that brings it, the blood, to the febrile or burning-out culmination known long since as a malignant variation of acute remittent or bilious fever. The name "yellow" comes from the color assumed by the skin.

It is true the mosquito haunts moist places. Kill off the voracious insect by every means! Screen the water tanks, the cisterns, the cesspools to the heart's content. It is all the greater pity that people select to abide such unsanitary conditions. But the composite of neglect, of dirt and decay steamed by moisture and hot temperature, are the real breeders of the yellow plague—with the ubiquitous mosquito thrown in. Abolish the breeders—the unsanitary conditions—and the mosquito will prove itself acquitted. As to the habitats of yellow fever, where it appears, unusual states of fermentation and putrefaction, these evolved by exceptional propagation of high temperature, in conjunction with relatively stagnant states of atmosphere which thus accumulates poison to density degree, and therefore correspondingly vitiates the blood pabulum of the body,—these pestilential agencies outwing and outsting any mosquito in morbific prowess! A ripe and exceptionally learned student of visitations of yellow fever in this country, fifty years ago wrote: "These animal effluvia may be the substance of the contagious or epidemic germ; a manure to the fungus, a pabulum to the living animalcule, or a nidus to its ova." This discriminating writer, of Charleston, S. C., so long ago looked deeper into the yellow fever problem than reaches the proboscis of the mosquito. In modern parlance, he did not infer that the bacillus was the prime cause of yellow fever or of any fever, but that the conditions which develop a disease must father the bacteria that attend the disease. The disease needs no special carrier besides infected breathing-air through which the blood tide and all that it feeds suffer to pathologic crisis or to collapse.

The diplomacy of systematic cleaning-up, faithfully maintained; the righteous scrubbing and whitewash crusade vigilantly repeated; the relentless routing out of all rubbish and processional rot; the salubrious drainage or filling-up with decent earth of all stagnant pools and places; the ardent cremation of all degenerate or mouldering effects; besides seeking for well-aired sleeping rooms three stories above the reeking earth; possibly also the freezing-out grasp of Jack Frost;—these may be conjointly requisite to absolutely release a stricken people from the local scourge of yellow fever. Sanitation must guarantee more sensible and effective conquest than the elusive pursuit of the foraging mosquito. Clannish indifference to the safety of sanitary virtues; repellent herding of uncleanly denizens and dogs; infective foulness of poultry-tenanted cellars; reeking expanses of slop-soaked surfaces and gutters; noisome back yards with manure collections and moulding rubbish; toxic coal oil fumes from cooking and lighting; perjured cistern water that has washed the filthy air and house roofs in falling; Caeser's ghost! of what puerile need to put it all up yet to the fugitive mosquito that shifts a share of existence amid the riot of such infective conditions!

There is a more rational philosophy, a more humane and logical and practically substantial pathologic advance, if we courageously reverse the prevalent bacillus hypothesis. We all doubtless believe in the bacillus of bacteriology. Although we did not know so much about the bacillus in earlier years, and accorded to it little attention, the bacillus "always has been, is now, and ever will be" an adjunct of natural adjustments in physical life. Instead of constructng our "ologies" of arresting disease on the inference that the bacillus, whatever its form, is the instigator of the diseases that it accompanies,—when we openly recognize the premise that disease in general is the abnormal physical state that results from unhealthy environment and other depressing conditions,—and that the "pathologic" bacillus is the natural fermentative product of the diseased state of the various parts wherein the bacillus is developed, each expression of disease and the class of tissues that are ailing giving form to the bacillus natural to each in the transpositions of non-vitalized matters,—we instantly have a tangible basis for remedial procedure without groping because, as facts demonstrate, when the disease is cured the bacilli have vanished. Therefore, instead of practicing costly severities on the constitution, and without punishing the impressible public with unnecessary alarms about "germs," our regenerating hygiene, our conservative antisepsis, our bracing reconstructive and tonic aids, our refreshing nutritives genially cooperate in restoring the blood tone and deranged organism to normal function and the patient is well. We will cease to fight at the bacillus—we will directly relieve the conditions that make the presence of the bacillus possible.

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Civil War Surgery.—Dr. Keen, in his recent book, *"Addresses and Other Papers,"* writes entertainingly that the surgery of the civil war was very simple—cold water dressings, or simple cerate spread on lint made by patriotic women by scraping one side of old linen sheets or table cloths. To encourage suppuration—for pus at that time could be "laudable"—the ordinary flaxseed poultice was often used. An amputation stump was always dressed with a Maltese cross of lint spread with cerate. It is gratefully noted that ether and chloroform were then in use. There were then, however, no antiseptics, in the present-day acceptance of the term; wherefore erysipelas, pyaemia, and hospital gangrene were rife. Wounds of the abdomen, involving the viscera, were almost uniformly fatal. There were no haemostatic forceps; and no retractors, by which a good view of the depth of a wound could be had; nor hypodermatic syringes (at least, not at the beginning of the war); nor aspirators; and finally no clinical themometers, the fever having been estimated by touch.

SERUM TREATMENT OF DISEASE.

BY HENRY TAYLOR, M.D.

IN cases of pure streptococcal infection, the injection of antistreptococcic serum has been strikingly successful. The variability in the ordinary results from the use of this serum has been due to the selective activity displayed by the antitoxin of each variety of streptococcus, or to the serum being used too late or having lost its activity from age; probably more uniform results will be obtained from the present compound antistreptococcic serum than from the earlier forms, from the prompt injection of serum at the commencement instead of near the close of a severe infection, and from the use only of fresh serum. The administration of the serum for some days after the general symptoms have disappeared is necessary also in order to avoid a recrudescence, while the question of dosage must be decided by the nature of each case and the effect obtained by the injection, but it is important to know that large doses spread over several days have been used without bad effect. The most rational method is that of a large injection (from 20 to 25 c.c.) on the first occasion followed by smaller doses as needed. Yet it is difficult to estimate accurately the general therapeutic value of the serum. For example, Bonne reports his own experience from its use. He believes it saved his life, while Ramsay in the case of a young girl with pyemia, abscesses in joints and miliary abscesses relates that in five weeks the patient was almost cured, 205 c.c. being injected. When the injections were stopped she grew worse; and yet many other observers feel that the serum did not have much to do with such recoveries, but that the patients would have recovered without its use. In individual cases the use of the serum would seem to have helped definitely; but these are more than counterbalanced by cases in which no effect whatever is to be attributed to the serum. The irregularity of course in puerperal fever, the difficulty of distinguishing the results of other treatment from those of serum, cannot be too clearly remembered. In a proportion of cases, however, there does appear, apparently as a definite result, a marked improvement in the subjective condition. This is by no means constant, and apparently bears little, if any, relation to the general course of the infection; but it seems to be definite and must have some meaning. There seems to be no good reason against its use; urticaria, erythema, joint-pains, etc., following its use are of not uncommon occurrence, but of no great moment. Abscesses at the point of injection, sometimes continuing streptococci, are not rare, and suggest care in using a bacteriologically tested serum. Probably in many cases the dosage has been too small; and remember the potency of different makes of serum varies, and they lose markedly by keeping. The problem is not to protect against an infection, but to cope with an infection in full swing, and that with a serum of doubtful efficacy; the needed dose must probably be large if anything is to be done. The limit of dosage must vary, but the untoward effects noted above are not frequent, and numbers of cases have borne 25 c.c. doses. Serum treatment should be used as an adjunct only, and never to supplant or modify other treatment. Pratt states that the result in puerperal septicemia treated with antistreptococcic serum have been as follows: Cases, 118; recoveries, 76; deaths, 41; percentage of recoveries, 64.4; percentage of deaths, 35.5; of course, the cases of most value are those in which streptococci were demonstrated in the uterine discharge. In Europe these views are held: Dandois said: "Those results alone are considered when recovery takes place after injections of the serum; but the cases are not considered in which the effects are not notable or in which death occurs; and in cases in which the patient recovers, it is not considered whether or not he would have recovered of himself if left without treatment." Willems said: "My experience is insufficient to judge from; but in cases of grave infection I would employ the injections and make a bacteriologic examination later, stopping the use of the serum if the case did not show the streptococcus. If they were found, I would continue the injections as the most reliable means we now have of combating their effects." Debersaques expressed the following opinion: "I have obtained marked results by injecting about the erysipelatous area. In cases of general infection the serum is an adjuvant, but surgical treatment loses none of its indications nevertheless." Lambotte reported 10 cases, and said: "Although bacteriologic examination was wanting in many of my cases, the results seem to point to the conclusion that the serum is more efficacious the earlier it is applied. It should, I believe, be used as a preventative where infection after operation is suspected." Baum, from his own experience and a study of the literature bearing on the subject, concludes that in cases of pure streptococcus-infection the serum undoubtedly exercises a favorable influence on the course of the disease. In cases of mixed infection the influence of the serum has been demonstrated, but further trial of the remedy as an adjunct to other treatment is desirable. Considering the grave character of complications of nonstreptococcic origin, all indicated therapeutic measures should be employed in addition to the serum. It may be assumed that the serum exerts a direct bactericidal action upon the streptococci, and not merely a stimulating influence on phagocytosis. The initial dose should be 20 c.c. to be followed by 10 or 15 c.c. every twenty-four hours, according to the indications. In America we are more conservative, for example: At a recent meeting of the American Gynecological Society, a committee appointed for the purpose of investigating the claims of the serum-treatment of sepsis, reported, after an exhaustive study of the recorded cases, that the serum-treatment of puerperal sepsis is not to be relied upon, and needs further laboratory investigation before it may be recommended for general use.

Will the day ever come when the serum-treatment of syphilis will be a success? That day will certainly deserve a white mark along with the discovery of the prevention of the small pox, for syphilis was formerly known as the big or "great pox." Many observers are working in this field, such as Risso, Feulard, Tommasoli, Kollman, Mazzam and Cipollina; one of the latest and most promising reports was made recently by the two Italian observers, Risso and Cipollina. They administered their specific immune serum, obtained by inoculating dogs with blood from syphilitics, not merely the serum. Sixteen patients have been treated so far with this curative serum; fourteen were in the secondary stage and other specific treatment had not yet been commenced. Two were in the tertiary stage. As a result nine of the fourteen in the secondary stage were promptly cured; two left before the course was completed and three are still under treatment. One of the two patients in the tertiary stage was completely cured, and the other is still under treatment, but all the patients displayed marked improvement. According to these observers the papular and the macular manifestations vanished more rapidly than under ordinary mercurial treatment; and even the lesions on the mucous membrane healed without the necessity for local treatment. In only two cases a tendency to recurrence was noted, but it was soon dispelled by return to the use of the serum. Epecially interesting was the subsidence of a gummy tumor in the nose under the influence of a dozen injections of the serum. The four patients still under treatment already display great improvement. These writers are convinced that the serum has an unmistakable active action on syphilis; it is probably specific, but may act merely by stimulating the natural defenses of the organism. According to their results it is not impossible to obtain an effectual serum from animals refractory to syphilis; and it is possible that animals can be syphilized after all, although the manifestations may not be like those of human syphilis. The first injections were made in June, 1904, the inoculation of the dogs was commenced in May. Their method of production of this serum was as follows: blood from syphilitics in the secondary stage, not yet subjected to specific treatment, was injected under the skin and into the peritoneum of the animals; the injections were repeated three or four times with an interval of five or six days; a week after the last injection their blood was drawn for the therapeutic injections. The contagiousness of the blood of syphilitics in the secondary stage shows that it must contain more or less of the specific virus; and the animals were inoculated with some of the formed elements of the blood in a hemolytic solution along with the serum, hoping that they would increase the action of the serum. This expectation was sustained by the fact that when too large a proportion of the dissolved corpuscles was added to the fluid injected, symptoms of irritation appeared; from two to five c.c. of the animal serum was injected into a muscle every day, or at longer intervals. A glycerin-aqueous extract of the spleen and liver from animals that had been repeatedly inoculated with the blood from syphilitics was also tried. Original observers are always so optimistic, it is well to wait before accepting these conclusions.

Antityphoid inoculation has been fully tried by Professor Wright, of Netley, England, but the subject has attracted absolutely no attention in this country. These inoculations were tried especially in the Boer War. In the case of the troops, 10,529 were not inoculated, 1,489 cases of typhoid occurred or one case in seven; while the proportion in which deaths stood to total number of men in group was one to thirty-two. In the uninoculated men, 1,705 in number were thirty-five cases of typhoid or one in forty-eight men as against one in seven; while the proportion in which deaths stood to total number of men in group was one to 213. Yet the mortality among the patients was about the same. These results on paper seem most brilliant. The serum is intended for use where people have been exposed to infection, or before they are, and does not seem to have any power over the disease once it gets a start.

Brilliant results are reported from India on the use of Calmette's anti-venomous serum. Fault has been found with Calmette's method of estimating the value of the serum on account of there being no direct estimation of the amount of venom which a given quantity of serum will neutralize, inasmuch as no account is taken of the fact that the untreated animal is capable of surviving the injection of a certain quantity of venom. Semple and Lamb, however, believe that such exceptions are unwarranted; thus if the toxin have a minimum fatal dose of 0.35, 0.3 not being fatal, and 1 c.c. of a serum protects against 10 minimum fatal doses or 3.5, the 1c.c. is capable of neutralizing 3.5—0.3=3.2. Calmette's claim is 20,000 immunity units, according to his method of enumeration, in 10 c.c. 1 c.c. injected intravenously into a two-kilogramme rabbit five minutes before the venom, is able to counteract a dose which would kill a control rabbit in from fifteen to twenty minutes. Semple and Lamb found the lethal dose of Calmette's venom to be 0.00035 gr. per kilogramme body weight, 0.00025 gr. per kilogramme being the maximum non-lethal dose; the dose which kills a two-kilogramme rabbit in twenty minutes is equal to three lethal doses, viz., 0.002 gr. They endeavor to ascertain what was the neutralizing power of the serum when injected five minutes before the venom. The results obtained by their experimentation, exactly confirmed Calmette's statements; and in trying to reconcile their results with those of Martin and Cherry, Semple and Lamb found that the venom at their command was only one-tenth as strong as that used by those observers. By a carefully-made estimation of the quantity of venom injected during snake-bite (0.019 gr.) and calculating that 1 c.c. of the serum neutralizes 0.001 gr., it was calculated that for a man of 120 lbs. the curative dose of anti-venomous serum should be between 15 and 20 c.c. In all points, Calmette was confirmed in his conclusions.

From the *Indian Medical Journal* comes encouraging reports of the use of "leprolin" in leprosy. About 120 cases have been treated in Burmah and fourteen so far have been discharged as cured. Rost has treated fifty-six cases which had improved so much that they are "almost cured." Improvement is first noted in a return of perspiration in a part previously dry, followed by a return of sensation, which may be only transient or it may be permanent; but ultimately it always returns on continuing the treatment. There is at the same time a gain of strength and loosening of the contractures of the fingers and toes; cases having been recorded with very severe deformity and loss of power through contraction which have completely regained their power and lost the deformity. Ulceration may give way to healing at once; but in some cases thickened, hard epidermis has to be cut away before the ulcer heals, while nodules are usually slow to disappear. The color of the skin returns slowly, and the pains in the limbs generally disappear early. The mental condition improves remarkably and with this change the physiognomy improves; local reactions after the injections vary greatly. Rost has given over 1,000 injections, and in no case was there any bad result nor was the disease increased in virulence. In nearly all the cases the improvement has been clear; in a few it is rapid, but in the majority the improvement has been slow, but steadily continued. He has given as many as sixteen injections, and in some cases no sign of improvement until after the sixth injection was noted. The difficulty in making a leprolin of constant strength makes it imperative to increase the dose if it is not found to cause a reactionary fever of over 100° F. and the interval between the injections has been restricted to ten days, as some few days seem necessary to allow the patient to recover after the fever, besides which a too rapid recovery must not be expected in a disease which is so decidedly chronic; the action of leprolin is antitoxic and not auto-antitoxic.

In 1897 Washburne made an anti-pneumococcic serum prepared on a large scale which he obtained by injecting a pony with increasing doses of cultivations of the pneumococcus; the potency of the serum being tested by mixing varying quantities with a tenfold fatal dose of a living cultivation of the pneumococcus, and injecting the mixture into the peritoneal cavity of a rabbit; .03 cubic centimetre of the serum was the smallest quantity which, when tested in this way, protected the animal from death; while animals which had already been infected could be cured by injecting larger quantities of the serum, provided the treatment was adopted not too late. The serum was thus shown to possess a distinct therapeutic action, and a number of cases of pneumonia were successfully treated with the serum. An account of the action of the serum and of the method of standardizing has been published by Washburne and Eyre, but it is not in general use as yet and probably will not be.

Bering defined "immunity to be the protection exhibited by an individual against the disease-producing activity of a poison in quantities that would be destructive for others;" according to Bering the rabbit which resists the poisonous properties of morphine given by the mouth or beneath the skin is immune, even though it succumbs to intra-cerebral injections. Immunity of this kind, as well as the resistance which many animals manifest to serpents' venom, tetanus and diphtheria toxins, tuberculin, etc., administered by the mouth may depend upon chemical changes brought about by the digestive fluids, or may depend upon purely physical reasons, the poisons being unable readily to pass through the mucous membranes, and discharged unchanged; hence the immunity of the rabbit to morphine may depend upon inability of the poison to osmose through the vessel walls.

It was noted by Bering that if animals be protected against fatal doses of tetanus toxin by an injection of teanus antitoxin, it is possible to kill it by intra-cerebral injections of the toxin. Mixtures of toxin and antitoxin injected into the brain are harmless. This seems as if: (1) The tetanus toxin did not readily pass through the walls of the cerebral vessels to be neutralized by antitoxin contained within them; and (2) That the antitoxin did not readily pass through the neutralize and toxin injected into the brain; thus, if at the time of administering the intra-cerebral injection of toxin to the immunized animal the blood-vessels are damaged and blood infiltrates the tissues, the animal does not succumb to the injection, indicating that the reaction is a chemical one, requiring actual contact of toxin and antitoxin.

Bering classifies two varieties of immunity to poisons, the hematogenous and the histogenous, the former being a passive immunity, the latter an active immunity. For the histogenous form Bering prefers the term "isopathic," for the hematogenous form "antitoxic." This antitoxic immunity never becomes isopathic, is not hereditary, and disappears as soon as the antitoxin disappears from the blood, while isopathic immunity may be accompanied by hypersensitivity of parts of the body sensitive to the toxin.

Chronic bronchitis has been treated with great benefit by antistreptococcic serum; in Carrière's case there were febrile temperature, profuse sweats, and abundant expectoration, with general signs of bronchitis with emphysema, together with some evidence of a cavity at the left apex. The sputum was repeatedly examined, and while it contained neither bacilli nor elastic fibres, streptococci were constantly found. After an injection of 10 c.c. of antistreptococcic serum, the temperature first rose, but soon fell to normal, and improvement set in; two weeks later the expectoration had greatly diminished in amount, not exceeding 5 or 6 oz., and was more mucous and purulent; general improvement was noted, although the physical signs were unaltered, and a second injection of the same amount was made. Three weeks after the second injection, the patient left the hospital greatly improved. The cough was slight and the expectoration only amounted to between 1 and 2 oz.; while the cavity signs disappeared and in a month the patient was in fairly good health.

A few cases of scarlet fever are recorded in which antistreptococcus serum has been injected with apparent benefit. The dose is 10 c.c., once or twice repeated, but nothing definite has been adopted by the profession.

Ehrlich unhesitatingly declares, in opposition to Buchner and others, that the toxin antitoxin reaction is a chemical one. He claims that it has already been chemically shown by the fact that in the ricin-antiricin reaction one molecule of the antiricin combines with a definite unchangeable quantity of toxin, the process being analogous to the formation of the double salts; the toxin antitoxin reactions take place much more actively when brought together in concentrated solution. Emmerich and Low concerning the action of antitoxin believe that its virtue resides in a bacteriolytic enzyme which, while chiefly operative in dissolving bacteria, is also capable of disintegrating the toxin; many interesting facts are noted: such as the peculiar behavior of cultures of bacillus pyocyaneus in bouillon and call attention to the pellicle formation, the sedimentation of the bacteria when growth ceases, and their ultimate transformation into a gelatinous mass. The growth does not cease because the nutrient is exhausted nor because the excrementitious acid or alkali accumulations are sufficient, for when these are neutralized the bacteria do not always continue active growth. The conclusion they reach is that by their growth an enzyme forms which bring about their solution, at first slowly, then rapidly as they form, and, finally, more rapidly than they can develop.

These authorities regard the antitoxins as sera rich in enzymes, and point out that in all the cultures used to immunize the animals furnishing antitoxin both toxin and enzyme is present; the toxin is destroyed in the body with much difficulty while the enzyme slowly accumulates, and ultimately sufficient enzyme is contained in the serum to make it useful for protection and treatment. When antitoxic serum is used for treatment the virtue resides entirely in the enzyme, which dissolves the bacteria producing the disease and destroys the toxin.

The possibility of conferring an immunity against certain mineral poisons, if not conclusive, are certainly suggestive. If protection could be afforded against chronic lead poisoning it would be a great boon to workers in many dangerous occupations, for example, Buredke has succeeded in developing in animals immunized to arsenic a protective body which he calls antiarsemine. It is non-dialysable and, hence, not a product of the arsenic itself. He believes that its productive power resides in its ability to influence the leucocytes, as when he suppressed their activity its power disappeared.

But on the other hand, Gill has used the serum in the treatment of acute tetanus, and arrives at the following conclusions: The treatment aims at these objects: (1) maintenance of the patient's strength; (2) controlling, as far as possible, the painful spasms, by chloral; (3) restraining the development of the toxin in the blood by hypodermic injections of antitoxin; and (4) preventing the toxin from affecting the nerve cells in the higher centres by intra-cerebral injections of antitoxin. In cases where the presence of bacilli is still suspected, local operation is necessary; (5) immediate improvement is not to be looked for after intra-cerebral injection. Semple reports a case where improvement was delayed for a week, and in the author's case for nine days.

The quantities given were 71 c.cm. by intra-cerebral, and 104 c.cm. by hypodermic injection of serum of ordinary strength. Apart from a scarlatiniform rash over the abdomen, lasting three days, the injections produced no ill effects.

Intra-cerebral injections of antitoxin have been tried because of the doubt about the efficiency of the hypodermic and intravenous injections of tetanus antitoxin. Several cases have been reported, and the injection has been made into the frontal lobes, and Semple suggests the following method: An imaginary line is drawn from one auditory meatus to the other, and from the centre of this line another is drawn to the outer angle of the orbit. The middle of this latter line is the spot where the injection should be made. The skull is trephined, or an opening made by a drill, sufficiently large to admit the nozzle of a syringe. The serum is concentrated, and the injection is made slowly. Carless has found that out of twenty-five patients treated in this manner eleven recovered and fourteen died.

Gibbs reports a case where it was thought that the fatal issue was due to the particular method of injection employed. There were found abscess cavities in the frontal lobes on each side, containing two ounces of thick pus communicating with the left lateral ventricle into which the pus had passed, and it also communicated through the the great transverse fissure with the cerebellar fossae.

The abscess cavity on the right side was smaller and less congested, and contained about an ounce of pus. Bacteriological examination and cultivation showed the presence of cocci possessing the characteristic appearances of staphylococcus pyogenes aureus. Gibb thinks it difficult to believe that sepsis was introduced with the serum, as every precaution was taken.

In closing I would say that in puerperal fever no serum has yet been produced which causes any apparent result in cases in which the disease has invaded the tissues beyond the original seat of the infection, but there is no doubt of the efficiency of serum for cases in which the streptococci have not passed beyond the endometrin. Experiments upon animals show that the prospects of recovery become more encouraging the earlier the injection is made after the reception of the infections. The dosage should be regulated by the severity of the infections, the size of the patient (animal) and by the time that has elapsed since the infection was communicated; Bumm prefers the subcutaneous use of the serum, in large doses, to its intravenous injection; he administers it at the conclusion of severe labors, if there is disease of the placenta, if there is decomposition of the liquor amnii, and if fever is present during labor.

Alcoholic nostrums too strong for Lumbermen, states the *Jour. A. M. A.*, with relation to loggers in the northern woods. Employers seek to discourage the use of patent medicines in their camps, as the "lumber jack" is inclined to use them as a substitute for alcoholic exhilaration, to the subsequent disturbance of his working powers. This recalls experiences related of "Klondike" camps, in which the fact was thoroughly recognized that those who in the extreme cold took to alcohol generally succumbed.

A PRACTICAL CONSIDERATION OF VERSION.

BY WALKER B. GOSSETT, M.D., LOUISVILLE, KENTUCKY.

VERSION is a procedure by which the position of the fetus in utero is changed, the object being to substitute one of the fetal poles for some other presenting part, and is divided into (1) cephalic and (2) podalic.

Medical history shows that turning of the child in the uterus is one of the oldest obstetric operations; it was more or less accurately understood and described in the time of Hippocrates whose comparison of the fetus lying transversely to an olive similarly placed in a bottle is so well known. This great master, however, committed the sad mistake of maintaining that the fetus could not be delivered unless the head presented first. Though some centuries later Celsus corrected this error, Hippocrates' teaching still prevailed upheld and sustained by the great name of Galen (for who could dispute what Hippocrates and Galen taught), until after the invention of printing in the fifteenth century, when the illustrious French surgeon, Paré, established for podalic version its legitimate place. Guilleneau, the friend and pupil of Paré, advised turning by the head or feet in case the placenta came first.

The famous Louise Bourgess recommended podalic version in prolapse of the cord, also in case of uterine hemorrhage during labor, the child to be then extracted by the feet, stating that it "was necessary to rupture the membranes as one forces an entrance into a burning house in order to save it."

Until invention of the obstetric forceps and knowledge of this instrument became the property of the medical profession, podalic version occupied a most important place in obstetrics, and turning by the head sank into comparative neglect, as prior to introduction of the forceps the accoucheur was powerless to terminate the labor even after he had brought the head into favorable position.

Among the aboriginal tribes of Mexico a curious custom is said to have prevailed in the management of cases of difficult labor: The woman was seized by the feet, suspended with her head downward, and vigorously shaken. If perchance the dystocia were due to a transverse position of the fetus, this rough and unscientific treatment might in a certain percentage of cases be effective, and to the few successes following such manipulation the custom doubtless owed its origin.

In Japan, before that country had attained its present high degree of civilization, it was customary to apply massage to the abdomen of pregnant women in order to straighten out a possible faulty position of the fetal ellipse. Among many primitive races of peoples some form of version is or has been in vogue handed down as a custom of ancient origin.

Conditions under which version may be demanded: (1) Transverse presentations, (2) contracted pelves, (3) cases in which rapid delivery is necessary, provided delivery by forceps is unsafe or impracticable, e. g., placenta previa, rupture of the uterus, prolapse of the cord, convulsions, tedious labor, puerperal hemorrhage, etc.

Choice of version: (a) When correction of a malpresentation is all that is required, and circumstances do not render immediate delivery necessary, cephalic version may be practiced: (b) When rapid delivery is demanded podalic version should be employed.

Before attempting to practice version the operator should acquire a true mental picture of the position of the fetus in utero, and personally know that adequate preparations have been completed to meet any emergency which may arise in connection therewith.

There are three ways of performing version: (1) By external manipulation, (2) by combined manipulation, and (3) by internal manipulation. Version by external manipulation is principally indicated to correct a transverse presentation, either (a) prior to the beginning of labor, or (b) if labor has commenced, before the liquor amnii has been discharged or as soon thereafter as is possible while the child is easily movable. In the performance of version by this method the woman is placed on her back with thighs flexed; the abdomen is uncovered, and the operator with his flat hands (one over the child's head, the other over the breech) gently pushes the fetal head toward the pelvic brim and the breech upward toward the fundus uteri; manipulations are practiced only during the intervals between pains; when a pain ensues manipulations should cease and the child be held with sufficient firmness to retain any degree of change in position that may have already been gained; when the proper position has been attained, if labor has begun, the membranes should be immediately ruptured thus inducing uterine contraction and continuation of the advantages in position previously secured; if labor has not commenced, assistance may be derived by placing a pad at the side of the uterus high up against the breech, and another on the opposite side lower down against the head, these pads to be retained in position by a suitable binder.

Version by combined manipulation is a method first proposed by Bush and Wright (Cincinnati, Ohio), and later advocated by Braxton Hicks, of London. It is the second least dangerous method, and should be tried after attempted external version has failed. In head presentations the procedure comprises three steps, viz.: (1) With the fingers of one hand inside the fetal head is lifted toward that iliac fossa toward which the occiput points, while the other hand outside depresses the breech on the opposite side: (2) As soon as the fingers inside touch the shoulder (or sternum) gently push or lift it in the same direction as the head, the hand outside still depressing the breech. This manipulation will readily bring the breech and knee within reach of the fingers: (3) The knee is grasped (the membranes if unbroken may be ruptured at this stage) and brought down, and the position of the hand outside is changed so as to push the head upward towards the fundus. At this juncture the foot can be reached and the case thereafter managed as a footling or breach presentation. In cephalic version by means of the fingers inside the shoulders are pushed in the direction of and after the breech, the other hand outside depressing the head.

Version by internal manipulation is comparatively easy before the liquor amnii has escaped, and when the uterus is not rigidly contracted around the child. The conditions to be ascertained before this procedure should be attempted are: (1) That the pelvis is of sufficient size to permit delivery of the child: (2) That the os uteri is dilated or at least dilatable: (3) That the presenting part has not descended so low or become so firmly impacted in the pelvis that it cannot be pushed back above the superior strait without risk of lacerating the uterus. Cephalic version by the internal method has become obsolete. Podalic version by the internal method comprises three procedures, viz.: (1) Introduction of the hand and grasping the feet: (2) Turning of the child: (3) Extraction of the child. The operator should proceed with the first two steps only during the intervals between pains; when a pain occurs the hand should be held quite still, relaxed and flat, thus avoiding the risk of rupturing the uterine wall with the knuckles. The third step is accomplished during a pain. In the performance of this operation complete anesthesia is required. The patient is placed on her back, the hips brought to the edge of the bed; the operator's arm should be bared to above the elbow and after proper cleansing be anointed with sterile vaseline upon all parts except the palm of the hand; the finger ends of the hand whose palm corresponds to the abdomen of the child are brought to a cone and introduced into the vagina in the axis of the pelvic outlet, the back of the hand being toward the sacrum; the hand is carried into the uterus in the axis of the brim, the other hand outside making support and counter-pressure; with the thumb between the head and pubes and the fingers between the head and sacrum the head is grasped and lifted out of the way; the wrist resting against the forehead maintains it in position; the hand is passed upward and by grasping one or both feet the child is readily turned (second step); should the membranes be unbroken they should be ruptured when the hand passes by the head into the uterus.

In regard to ascertaining location of the feet: Use the right hand for right presentation, and the left for left. In a right lateral presentation, when the position is a dorso-anterior, the feet will be found toward the right and posterior part of the uterus above the right sacro-iliac synchondrosis. Pass the right hand along the hollow of the sacrum to the right and upward over the promontory and grasp the feet. In a dorso-posterior position of the same right lateral presentation, the feet will rest toward the left and anterior part of the uterus above the left acetabulum. Pass the right hand directly up and grasp the feet behind the pubes and acetabulum, instead of going behind the child's breech and pronating around it. This method is made easier by placing the woman on her side—the side toward which the feet are directed—while the operator, standing behind her, passes the hand—right one for right, and left one for left, as before stated—with its back toward the pubes and acetabulum, directly to the feet (King).

In a paper on "choice" of the feet in podalic version which was read before the Edinburg Obstetrical Society by D. Berry Hart (*Scottish Medical & Surgical Journal*), the following suggestions are made: Seize the knee or leg which maintains the dorso-anterior position or converts the dorso-posterior into a dorso-anterior, that is take the farther limb in dorso-anterior cases the nearer in dorso-anterior cases. When, however, in dorso-anterior cases the breech is in the fundus, traction on the nearer leg may convert it into a dorso-poterior position, traction on the farther leg may not alter the posterior position of the back after version, owing again to the want of the necessary obliquity in the pull (Hart).

When the child has been turned the case may be left to nature unless circumstances render rapid delivery imperative.

Manual dilatation of the cervix is usually difficult and tedious, but if the operator is persistent sufficient dilatation can more often than otherwise be obtained within twenty minutes.

One should always be careful in flexing the limbs, as there is danger of rupturing the uterus.

It is generally best to bring down only one foot and make traction, leaving the other to assist in greater dilatation of the cervix.

TYPHOID FEVER IN NEW YORK CITY.

The Health Department reports an unusual number of deaths from typhoid fever at this time, and undoubtedly many of these deaths must rightly be attributed to the present short supply of the Croton water, and to its consequent impurities, which tend to the production not only of typhoid, but also of other dangerous diseases. It is impossible to guard from contamination the three hundred and sixty square miles of watershed which supply Manhattan and the Bronx. Indeed, we could not if we would; for part of this territory lies in Connecticut, where our authorities have no jurisdiction, and as for the rest, declares, truly enough, the New York *Times,* "the State machine has usurped control, considering its interests in adjacent counties more precious than the lives of our citizens."

On these accounts Dr. Darlington, the Health Commissioner of this city, has recommended the establishment of a filtering plant for the Croton inflow. Such filtration has passed beyond the experimental stage. It is certain that this method will cleanse more than 99 per cent. of the cloudiest water, making it clear and bacteria free. A filtering plant for the Croton supply of fine hundred million gallons daily would cost $17,000,000 in two years, and three quarters of a million thereafter, including cost of operation, interest, sinking fund and depreciation. Does this seem a large amount? New York City's last annual budget, we believe, called for more than $108,000,000. Our politicians could, on these estimates, have our water supply clean and pure, and still have more than a hundred millions a year to "blow in" on other matters less important than the health of our people. Nor should the question be one wholly of money. Dr. Darlington observes, however, that a careful computation of the yearly loss in wages of those who become ill, and those who die from drinking impure water, the private and public expense of caring for the sick, and burying the dead would more than maintain a filtration plant and pay for the interest on the investment.

LITERARY PRESCRIPTIONS.

For reading during convalescence the *British Medical Journal* would prescribe literature that cheers but does not inebriate, and would contraindicate writers "whose style, like that of George Meredith, puts a constant strain on the understanding of the reader, or, like that of Mr, Maurice Hewlitt, irritates by its artificial glitter, or, like that of Marie Corelli, annoys by its frothy impertinence." Dickens should go well during convalescence—except Pickwick, at least in surgical cases, because of the many side-splitting episodes which would play havoc with the union of parts. And for the same reason, in order that healing granulations may not be interfered with, we would absolutely interdict Mark Twain. Smiles' *Self Help* is quite innocuous; but we should be cautious in recommending it, in order that the patient may not thereby be led to meditate over a misspent career, and to have suggested to him all the opportunities in life he might have grasped but did not; a despondency might thus be induced which would delay a restoration to health, and which might even prove fatal. Thackeray, (except *Vanity Fair,* which is a pessimistic book), should go very well; Pendennis and Barry Lyndon will certainly entertain. The magazines of the day are placid and cheering enough; and in them one will seldom come upon a story suffciently original or vigorous to excite anybody. *Punch* will, of course, be always in order—for its humor is of the soothing sort which never arouses one's risibilities, but keeps him always within the decorous limits of a smile.

A little music every day should be most restful to the convalescent; Mozart and Mendelssohn and Papa Hayden are here the right men, for they composed always in mellowing, calmative vein.

Endotracheal medication is strongly advised by Richardson (*Med. News*), as simple, safe and practical; the whole bronchial area can thus be medicated and portions of the lung reached by absorption through the pulmonary lymphatics. Violent coughing is not generally induced by this means, as is supposed by some; there is no more disturbance than in an ordinary application to the nasopharynx or larynx. The technique is simple. The patient is seated as for laryngological examination; the mouth wide open, the tongue protruded and held firmly by the patient. The laryngoscope gives the image of the epiglottis and glottis. The canula of the syringe is then directed over the epiglottis, and during an inspiration, by making a sort of see-saw motion of the syringe from below upward, it is made to penetrate between the vocal cords and pass the first ring of the trachea. The syringe is then relieved of its contents, while the patient inhales slowly and deeply. This is the all-important point to be observed in making successful injections. A two per cent. solution of cocaine may have to be sprayed into supersensitive throats for the first few treatments; on the other hand some patients can be successfully injected by simply depressing the tongue and guiding the syringe directly over the tip of the epiglottis into the larynx and trachea, without even the use of the mirror. It is not likely one can treat children by this method. The choice of syringe is very important; that of Schradel, made by Tiemann of New York, is excellent. There is a glass barrel enclosed in metal and having a spring attached to the piston. The syringe is relieved of its contents by gentle pressure with the index finger on the spring where the liquid is allowed to flow out quickly or slowly, according to the operator's will.

The medicaments selected should be antiseptic, stimulating, non-irritating and soluble in the vehicle employed. Watery and mucilaginous solutions have proved too irritating; oily solutions are better. The volatile essential oils eucalyptus and thyme may be combined with menthol, camphor, creasote, iodoform or orthoform, according to indications, with olive oil as a vehicle. The injections should be given daily; and one or two drachms may be given at a time; there may be two or three injections at a sitting. A great factor in favor of this treatment is that it does not disturb digestion or interfere with other treatment. The therapy includes bronchitis, asthma, tracheitis, bronchiectasis, and pulmonary phthisis. The author's favorite mixture is of five per cent. campho-menthol with eucalyptus and thyme and sterilized olive oil or a highly refined bland petroleum.

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Teach me never so much and I hear or retain only that which I wish to hear, what comports with my experience and my desire. Many eyes go through the meadow, but few see the flowers.—EMERSON.

PERFORATION IN TYPHOID FEVER.

THE physician, hunting for helpful data in reference to this sad occurrence, need not look back many years in medical literature. It was one of the occasions found when he was compelled to fold his hands and admit his own impotence. Now there is a chance for life which should not be neglected. In fact, the physician, like the skilful pilot, must now watch for its approach, ready to act on the shortest notice. He must note the condition of the patient constantly, the condition of his abdomen, the frequency and character of his stools, the presence or absence of blood and he must warn the attendants to keep up this supervision in his absence. Instead of a complacent ease in nursing typhoid, there must be the most intense vigilance, never relaxing day or night.

Extensive studies of the same class of patients under the same conditions by the same physicians are peculiarly valuable in such accidents as these. Recently Scott in the *University Medical Bulletin* studies the cases at the Pennsylvania Hospital for five consecutive years. This hospital has had a most extensive experience in this class of cases, drawn from every rank in a large city. His collection includes every case, whether admitted into the medical or surgical wards. In the English hospitals the occurrence of perforation was as follows: St. Bartholomew's in seventy-five hundred cases there were three hundred and forty deaths and one hundred and seventeen cases of perforation. At Brisbane there were thirty-three hundred cases and two hundred and forty deaths and ninety cases of perforation; at the Marten Hospital there were nineteen hundred cases with three hundred deaths and ninety-six cases of perforation. At the Pennsylvania Hospital, there were nineteen hundred cases with one hundred and fifty deaths with forty-eight perforations. Hence, it can be seen that this accident occurred in about one-third of the cases which died, which is a larger percentage than usually supposed. Taking the deaths from typhoid in 1900 as 35,379 in the United States this percentage would give over eight thousand deaths yearly from perforation.

Taking these fifty cases, it was found that seven occurred between the ages of five and fifteen, fifteen between fifteen and twenty-five, sixteen between twenty-five and thirty-five, eight between thirty-five and forty-five and only four between forty-five and fifty-five. The great majority occurred in patients under thirty-five, which is only natural as typhoid fever is a disease of the young. Curiously enough, forty-five of these cases were males. The occurrence of perforation was noted only twice in the first week; ten times in the second week, twenty-two times in the third week, seven times in each of the fourth and fifth weeks, while one case occurred respectively in the sixth and seventh week.

As to the severity of the cases, six were mild, ten were of ordinary severity, twenty-seven were severe and in seven no history was recorded. In eighty-six per cent. of cases the ileum was the seat of perforation and the great majority of these cases were within twelve inches of the ileo-cecal valve—as to local symptoms, pain, tenderness and rigidity, while sudden, sharp severe pain was present in the majority of cases, yet it did not occur in all. No pain was complained of in six cases. Generally, however, the pain was sudden, severe and agonizing, causing the patient to cry out or wakening one from a sound sleep and localizing itself in a special zone. Tenderness is a far more reliable guide, for it was present in at least seventy-five per cent. of cases while rigidity was less frequent. Distention was a late manifestation and not a safe guide. The classic symptoms, hemorrhage and chills, were not so important; in over sixty-six per cent. no hemorrhage was noted, while chilliness or chills were present in only fourteen per cent., nor was the change in temperature diagnostic, not changing in fifteen cases, slow fall in ten, immediate fall and rise in four and in two cases normal temperature when perforation occurred.

The most interesting feature of Scott's paper is the surgical report, for thirty-nine of these cases were operated on with twelve recoveries. In the other eleven cases no operation was done and none recovered. In the cases operated on four died of other causes than the perforation. In the non-operative cases, seven were undiagnosed and in three no operation was permitted by patient or family, or it was considered hopeless.

The cases that recovered from operation seemed to run in groups, and some of them were desperate indeed, often twenty-four hours after perforation, but where hemorrhage occurred with the perforation the cases were uniformly fatal. The principal lessons from Scott's paper are that perforation is more common than is usually supposed, that classic symptoms are often absent and that no case is too desperate for surgical interference; it frequently happens that mild cases succumb while very ill patients recover from the operation.

THE PROBLEMS OF ARTERIO-SCLEROSIS.

THE problem of blood pressure in arterio-sclerosis is a vital one, for the vessels are weakened and stiffened. Dunn has measured the blood pressure 1,000 times in 440 patients with arterio-sclerosis with Gaertner's tonometer. He found that in 120 subjects the blood pressure normal or below; in all the other patients the blood pressure was above normal. He observed in 36 out of 80 cases with low blood pressure angina pectoris, while in 8 cases the sharp accentuation of the aortic second sound was the only symptom on the part of the vascular system, the blood pressure in this group being only 90 mm. to 140 mm. In a group of 14 cases there were pronounced subjective disturbances and corpulence, and changes were found in the heart, with signs indicating dilatation of the arch of the aorta and sometimes also of the aortic orifice, while another group of 22 presented the same findings with the exception of the stoutness.

In all his cases of normal or low blood pressure the arterio-sclerosis was evidently restricted to the large arteries, while the smaller were intact; most of his patients were middle-aged, although some were quite young. In 35.7 per cent. of 380 cases of arterio-sclerosis corpulence was noted, the proportion being higher among the subjects with high blood pressure. Reduction of the corpulence frequently seemed to restore the pressure to normal. He found functional overpressure to be very rare. Therapeutic measures to redue the blood pressure were seldom successful except in corpulence, although, of course, the general condition was much benefitted by hygiene and measures to tone up the nervous system and the heart muscle. While the heart is sound and vigorous, the changes in the arteries are effectually compensated, but long-continued over-pressure entails hypertrophy of the left ventricle, although it may not be clinically evident. Measurement of the blood pressure may thus determine the size of the heart better than mere percussion. The pulse was found to be rapid in 40 out of 136 cases of high pressure; in one instance the pressure was 240, the pulse 200; in another, with a pressure of 250, the pulse was 120. Fully 25 per cent. of these patients were neurasthenics. Tachycardia with high pressure was a bad symptom, showing the approach of disturbances in compensation.

Arterio-sclerosis "colic" is a curious complication being really neuralgia of the lumbar sympathetic; this fact is shown by the likeness between the spontaneous pains and those induced by pressure on the sympathetic; the irradiations of the pain are identical, showing that the colic is, in fact, neuralgia of this portion of the sympathetic nerve, with possible involvement of the celiac, aortic and hypogastric plexuses, the neuralgia being due to irritation. It is explained in this way: the aortic plexsus lies close to the aorta, and any inflammation of the adventitia is liable to affect the plexsus; inflammation of the adventitia being common in arterio-sclerosis. Periarteritis is an almost constant accompaniment of arterio-sclerosis, and the involvement of the adjacent nerve is almost inevitable; for example, the superior mesenteric ganglion actually surrounds the origin of the superior mesenteric artery; hence, the epigastrium is so frequently the location of the arterio-sclerotic pains. The sclerosis of the splanchnic vessels entails, morover, hyperemia or inflammation of the lumbar sympathetic as an inevitable consequence, either from sclerosis of the nerve vessels or collateral congestion, which explains why arterio-sclerotic colic usually comes on after physical exertion, for the congestion in the vessels of the plexuses, resulting from exercise, superposed on the hyperalgesia resulting from the permanent congestion produces pain. This congestion may also produce excessive functioning of the suprarenals, this hypersecretion of adrenalin may produce cramps, as seen in experimental research. Vaquez reported last year that his experiments revealed a marked tendency to cramps on the part of sclerosed vessels, and that hyperplasia of the suprarenals was apparent in such cases, which observation has been confirmed by others. Buch believes that the process in angina pectoris is much like that in arterio-sclerotic colic, and they may occur together. Certainly, treatment of arterio-sclerotic colic based on these ideas is remarkably effectual. Strophanthus may not only abort an attack, but may ward off recurrences; and as the pain is relieved by pressure on the abdominal plexuses and aorta, massage seems to be indicated, combined with Swedish movements. More or less permanently favorable results were obtained in Buch's cases by the medicinal and general treatment outlined. In some patients the manifestations of the arteriostio-sclerotic condition were banished for several years. He believes in consequence that the prevailing pessimism in regard to arterio-sclerosis is not justified, and the cases on record of local arterio-sclerosis of the extremities, from nervous influences alone, teach that the nervous system should not be ignored in the treatment.

Savill contends that the pathology of the different tunics of the arterial system should be studied separately, just as are the different coats of the heart; for this purpose careful histological methods and a large number of specimens are necessary before generalizations can be made; neutral and acid orcein stains being valuable aids. Advanced atheroma and a considerable degree of intimal and adventitial sclerosis may exist without serious consequences and be compatible with extreme old age provided the muscular tunic is not affected. The prime importance of the muscular tunic relatively to the intima and adventitia, in that it constitutes the functionally active structure of the arterial system and the regulator mechanism of the whole body. The existence of arterial hypermyotrophy as a substantive generalized change in the arterial system; the importance of its recognition by reason of the potential evils in the way of circulatory derangement, circulatory accidents, nutritional disturbances, disturbance of the balance between the heart and arteries, and the degenerations which are apt to ensue. It is the first step towards senile or generalized decay and is the main cause of senile or postural vertigo at any period of life. The combination of arterial hypermyotrophy and focal necrosis of the media is a most deadly one and may produce death by hemorrhage at a comparatively early age. Arterial hypermyotrophy may result from chronic renal disease, but it has many other causes, all of which are capable of producing high arterial tension.

All persons with a tendency to rigid arteries should be prohibited alcoholic drinks, and cautioned against all forms of violent exercise or overwork; and, further, should arrange their affairs so as to have as little worry as possible. Butcher meats should be reduced, or better still, cut off entirely, for there is no fear of the patient starving. Enough animal and nitrogenous products can be obtained from milk and eggs, while in bread and many vegetables there are nitrogen-bearing compounds. The elimination from the dietary of alcohol, meats, salmon, lobster, game, turkey, goose, duck, cheese, beans, and the more highly nitrogenous foods, will, in time, relieve the system of those waste products that are causing rigidity of the arterial system, while the emunctories should be kept active; the skin and kidneys should be made to do active duty. This can always be brought about by inducing the patient to drink plenty of water, which when once introduced into the system must come out somewhere, and its main channels of exit are the skin and kidneys, and there is no better solvent than water, for it dilutes the bile and urine, lessening the tendency in these cases to gall-stones and renal calculi; it washes out of the system the compounds of uric acid that act so injuriously on the liver, kidneys and smaller arteries. If the hygienic and dietetic treatment be carefully observed, there will not be much need for drugs. One drug, however, deserves special mention, potassium iodide, "the drug of the arterial system." It need not be given in large doses; 2 to 3 grains in water, after meals, will prove quite ample. It will act better and cause less annoyance to the patient if it is combined with an equal dose of ammonium carbonate.

THE SHIP SURGEON.

In the present overcrowded condition of the medical profession, any service for medical men is to be welcomed, provided that it is compatible with professional standards of dignity. With the exception of the three government services, in the army, navy and Public Health and Marine Hospital corps, America offers surprisingly few formal positions for physicians, outside of private practice. Contract positions which pay adequately, are mainly limited to comparatively few mining and manufacturing establishments on a large scale and the social features of such a life are usually objectionable. Civil positions which can be considered seriously, except as side issues in private practice, are mainly confined to insane asylums and the two or three chief executive appointments in the health departments of large cities. Hospitals, penal institutions, charitable institutions for the defective classes, etc., afford few openings for a physician at any supporting salary. Life insurance work employs a considerable number and the tendency is more and more to a restriction to a few well-salaried positions, rather than to disbursing a greater sum among a disproportionately greater number of private practitioners. The vast majority of all appointive positions, whether governmental or private, can be considered only as aids in the building up of a private practice, the small salary or receipts in fees being entirely inadequate even to provide the necessities of life.

The marine passenger service affords a desirable and comparatively well-paid opening for a few physicians and if the attention of legislators is once called to the subject, the number of positions will undoubtedly increase, as the laws of our country are strangely lax in requiring medical aid for passengers on fresh-water boats and those coasting along the ocean and for the crews of large freight vessels. It is obviously unreasonable to require a medical officer for the smaller freight craft, unless for long voyages, or for excursion boats, yet it is certainly in accord with ordinary principles of humanity and with the custom of providing comforts and safeguards for travelers, to urge that all boats which are out of touch with land for a week, and all, whether on salt or fresh water, which carry more than a hundred passengers, which are subject to storms and which make continuous trips of more than a day, should be provided with a surgeon.

It is to the discredit of our country that the great majority of ocean-going ships are controlled by foreign nations and, therefore, mainly subject to foreign laws and outside the jurisdiction of our own laws, except as American interests are very directly concerned. We understand that German and French ships are required to be officered with citizens of those countries. The surgeons of the Dutch ships are American, partly on account of a courteous and businesslike deference to the fact that most transatlantic travelers are Americans, partly because the customs of European professional life do not tend to that mental elasticity and tact so necessary in a surgeon who is under an almost naval discipline, who is also expected to act somewhat in the capacity of host to the company's guests, and who must be sanitarian, surgeon and physician combined, and must adapt himself readily to the most diverse social status of patients from first cabin to steerage. English ships, we understand, sometimes carry American and Canadian as well as English physicians.

The position of ship's surgeon is an ideal one, in many ways, for a recent graduate, but it is almost impossible for such a one to obtain the position, not only because of the relative scarcity of openings, but because the policy of the various lines is to appoint men of some experience, and, by preference, those inclined to regard the appointment as fairly permanent. Thus the average ship's surgeon is a man of at least ten years' experience, often in the same line, and it is by no means rare to find men growing grey in the service and retiring after a life-time on the ocean. The ship's surgeon is, as a rule, not contented with his lot. But what salaried physician is, unless he is at the head of a large institution or of some important health department?

Half or more of the surgeon's time is spent on the water, where he enjoys better quarters, has better attendance than, and the same luxurious fare as, a first-cabin passenger, without being subject to any of the expenses of shore life, or the incidental expenses of passengers, since even his tobacco and liquors are supplied by the company with a liberality which is appalling to a total abstainer. Even when the ship is lying in port, the surgeon usually has the privilege of occupying his room and of having his meals on board, though, as the duties involve only a daily visit to the ship and entire leave of absence may often be obtained, most surgeons prefer to engage quarters on shore, even if they have no family. As living expenses, clothing, etc., are much cheaper in Europe than in America, the necessities cost the ship surgeon not over half and, with a little economy, not over a third or quarter, what the American physician in private practice would have to pay for decent food and lodging, clothing, etc. Professional expenses such as office rent, telephone, buggy, instruments, books, drugs, etc., are either unnecessary or are met by the company. The income varies considerably according to the size of the ship, and, in some cases at least, according to the number of passengers, as some companies pay a very small salary and a much larger but variable amount, on the profit-sharing principle. On the average, the actual cash receipts of the surgeon vary from $1,000 to $2,000 a year and, for the reasons already mentioned, this income really represents an income of from $1,500 to $3,000 on shore, not to mention the fact that the board for fully half the time is considerably more luxurious than the average man with an income of $3,000 enjoys. In other words, the ship's surgeon gets considerably more than the average American practitioner, whose total income is usually estimated at $1,000, and yet by no means an excessive amount when we consider the position from the standpoint of a man of ability, engaging in the work for a lifetime or a series of years.

But no position in life is without its disadvantages. The physician in private practice, though at the beck and call of any one who requires his services, is still remarkably independent in his ability to do as he chooses in any particular event. The ship's surgeon, though usually outranked only by the captain, is, at least in theory, absolutely controlled by the latter, and he comes directly in contact with this authority, while both captain and other officers occupy a very humble position with regard to the company. Of course, in the great majority of instances, the policy of the company and the character of the captain are too broad to descend to petty persecution of a subordinate—just as in the case of military and naval discipline—still, the feeling is somewhat different from that of the sovereign American citizen in business for himself and with nothing but the law of the land and his own conscience to dictate to him. We can imagine—though we have no instance in mind—that at times, a dictatorial land official or a captain who is a martinet or a colleague of malicious disposition, may render the position of ship's surgeon very far from desirable. Again, from the purely social standpoint, the ship's surgeon encounters problems easy enough for a gentleman of the world, exceedingly difficult for one who is unsophisticated. Not only must he recognize and make others recognize that he has superiors and inferiors in the personnel of the ship's officers and crew, but he must adapt himself to all classes of passengers from the peasant emigrants who will kneel and kiss his hand if he is at all considerate of their welfare—and perhaps share their vermin with him—to European aristocrats or cod-fish American aristocrats, who may be offensively patronizing or openly insulting. Perhaps the hardest problem is to deal with those who are too friendly—the traveling physician who expects to be shown the mysteries of the steerage, the convivial gentleman who wishes the doctor to get drunk with him, the professional or amateur gambler, the susceptible widow, the jolly party who would like to retire to the privacy of the doctor's cabin for a high old time. To maintain professional and official dignity, to be courteous and entertaining to all, to respond to overtures of personal intimacy, to avoid anything like familiarity or partiality, to maintain the absolute secrecy as to internal matters required on shipboard, requires the fine art of a diplomat.

In its purely professional aspects, practice on a ship is somewhat analogous to that in the army or navy, in that the doctor must, theoretically, always be prepared to treat any kind of a medical or surgical or special case, without opportunities for acquiring much experience in any serious condition, and with many drawbacks, such as lack of assistance from trained nurses and colleagues—for the policy of the ship is against consulting even with such physicians and surgeons as may be accidentally available,—the absence of proper operating rooms, and the instability of the ship. We may also mention the lassitude of the ocean life which seems absolutely to prevent the concentrated and prolonged effort of which workers on land are capable. These last two factors, especially the former, render refinements of chemic and microscopic investigation out of the question, and, as the passengers are under observation only for a few days, and as any serious acute or chronic disorder necessitates the retirement of any member of the crew, there is no opportunity for other than emergency practice, mainly of a comparatively trivial nature. Thus, certain professional ambitions render ocean practice out of the question, except transiently, and, as has been said, such appointments are not easily secured by those whose sole object would be a fairly remunerative position with opportunities for brief but frequent trips to European centres of medical education.

One of the embarrassing problems of the ship surgeon is the question of fees from cabin passengers. We believe that all lines forbid this source of income, and that all wink at infringements of the rule. The reason is not difficult to find. The company pays the surgeon a fair sum for taking care of the health of the crew and the steerage, including attention to various sanitary matters, and business necessitated by the quarantine and immigration laws. The company, thus, insures the presence of a competent physician for passengers traveling for health, pleasure or business. By so doing, it avoids a considerable degree of danger of suits for accident or lack of attention—and indeed, it is compelled to do so by law. It is obvious that a passenger who receives an injury or who becomes ill through any fault of the company or purely accidentally, through no negligence of his own, should receive medical aid at the expense of the company. It is equally obvious that the passenger who suffers from toothache because of failure to secure proper dental care, or the one who comes on board with a venereal disease, or on the verge of delirium tremens, or who has some chronic ailment, or even an acute disease not ascribable to conditions developing after embarkation, ought to pay his medical bills just as if he was on shore. Of course, there are always persons accustomed to the European paternal system of medical relief, those short of money and those whose policy is to get all they can for nothing, but the majority of self-respecting passengers will voluntarily pay the surgeon for any attention received. Yet the feeling that such payment is voluntary, that it cannot be enforced or even demanded in a businesslike way and that it is contrary to the letter of the regulations, can hardly be a pleasant one. Of course, so long as the doctor does not unduly urge this payment, the company does not object to his receiving it. The literal enforcement of the rule would, after the usual delay inevitable to any readjustment, result in one of two alternatives: either the quality of the medical service would deteriorate, which would soon mean a great expense to the company in the form of damage suits and loss of patronage, or the company would have to increase the pay of the surgeon by an amount equal to the present average income from private practice. But, no matter what the salary of the surgeon, the majority of persons who now voluntarily pay him, would continue to insist on making some return and it would be impracticable to enforce a rule to the contrary. All things considered, it would seem better to accept existing conditions and to formulate schedules of charges for the first and second cabins, with exemptions for services directly necessitated by any fault or accident for which the transportation company would justly be liable.

With all its drawbacks, the position of ship's surgeon is one of honor and responsibility and one that is, on the whole, at least as well recompensed as most official appointments on shore or private practice, excepting under more favorable conditions than the average. It involves no especial risk, and, like most institutional work, it is free from the vexations and dangers of exposure incident to practice in which transportation to and from patients is a serious problem.

A PHYSICIAN'S ACQUITTAL.

Professor Dührssen, when operating on a woman for the relief of sterility, found it unexpectedly necessary to remove the uterus on account of uncontrollable hemorrhage. It was held that he should have informed the patient beforehand of the possible danger of the operation. But the Court decided that a physician is not legally bound to inform his patients in regard to the dangers of any affection or disease. In the present case he was unable to foresee the possible danger, as all his similar interventions in the past had proceeded without mishap. On appeal the decision was reaffirmed.

CHOLERA.

THERE is an epidemic of cholera in Germany which has some points in common with that of yellow fever in our Gulf States; and one point at least in which there is absolutely not the slightest resemblance. We refer to the panic born of ignorance and fear which has characterized the behavior of many of our citizens in New Orleans and other Southern communities; while on the other hand the epidemic of cholera in Germany is absolutely under scientific control, *every* physician in cholera districts is an agent of the Bureau of Infectious Diseases, and "all the inhabitants are auxiliaries of the medical authorities." Pity we cannot sometimes have among us a benevolent despotism, instead of a chaos-breeding condition of things such as is brought about by obstinate stupidity and disregard of the wholesome teachings of science. In the epidemic now in Germany the only enemy which has to be contended with is the cholera bacillus, "which is travelling in the streams or moving slowly from one locality overland to another, attached to articles of use or in human organisms." The physicians teach, and the people heed with understanding, that the only manner in which the bacillus is dangerous is through the digestive tract by means of infected fluid or foodstuffs; that if drinking water is boiled and food is cooked there is practically no danger. The people are not to bathe in rivers; they are not to hide suspicious illnesses or deaths from the authorities, lest the epidemic spread; they are to wash their hands repeatedly. These admonitions are promulgated by means of red placards, police and newspaper cautions and sanitary leaflets. In every household domestic councils are held. Garbage is promptly removed; premises are kept clean.

In Berlin the medical council of war sits every noon in the Ministry of Education, Worship and Health, taking fresh measures to meet the situation and deciding on additional means of prevention. Dr. A. Kafka, Chief of the Bureau of Infectious Diseases, has his headquarters in the infected area constantly changed; his sanitary motor boats patrol every stream investigate every craft, see that waterside places and resorts are closed, and visit the cholera stations established at intervals along the rivers; his special staff of 200 is constantly active. All these precautionary measures being known, the effect is decidedly reassuring on those who live within and without the infected area. In all the towns and cities of Prussia, states the *Evening Post,* exact instructions are sent out by the Government to physicians respecting the notification of suspicious illnesses and the prompt removal of such cases to designated places, and the disinfection of the premises. The principle laid down is that a suspected case must be considered as being a genuine one until proved to be the contrary. Railway conductors are being instructed in the symptoms of cholera so as to be able to decide, when a person is sick on a train, whether he should be placed in a compartment by himself until a hospital town is reached. Numerous cholera inspection stations were established in and near infected areas.

This epidemic seems to have come from Russia, among agricultural laborers who came across the border; the frontier is therefore being carefully watched. It was talked about as early as September a year ago, when it appeared among the Russian garrison in Port Arthur. It then became known that it was prevalent among the Russian soldiers in Manchuria. The fear was then expressed of a visitation in the Spring; and at an anti-cholera congress held in Moscow in April the doctors present bitterly complained that the Government was obstructing the work of precaution. Soon after this meeting cholera appeared in a province close to St. Petersburg. Its first manifestation in Prussia was when two Russian raftsmen died from it on the vistula.

With regard to the protection of our own country: The American Board of Emigration at Bremen has ordered all steerage passengers bound for the United States to be at their port of embarkation six days prior to the date of sailing. This covers the period of incubation. Our National Health authorities have, in like manner, taken precautions altogether adequate. So that an extension of the epidemic to us from beyond seas is not to be feared.

In reflecting upon this modern scientific method of controlling an epidemic of infectious disease the physician would do well to read Dr. Hecker's book on European epidemics in the Middle Ages. He will then reach the conclusion, we think, that there never was on the footstool a calling nobler than his own.

STATISTICS.

THE science of statistics is not attractive to many, perhaps to most minds. There are those indeed who would hold that "a well-bred person never insists on facts." And many among the indolent would adopt the position of the Oriental gentleman, who, when asked for certain figures concerning his native city, replied that to ascertain them would be "both difficult and useless." Mr. Leonard Courtney, at a recent Lord Mayor's banquet, in bantering mood observed: "There was a poetry of statistics and, if they had only got the gift divine, they would be able to see in the array of figures, which seemed so dull and uninviting, pictures of the movements of life as exciting and interesting as any poetry could contribute." To whom Lord Onslow, with equal good nature, responded for the statisticians that their work and duty was often termed dull. It was the business of the statisticians to state facts; and that of the statesman to make deductions from them. The facts were sometimes dull but the inferences were almost always entertaining. The statesman drew true inferences from the facts, but the politician often ventured into the realm of prophecy.

We would not, however, for our part, take flippantly the observation of Mr. Courtney just quoted. Statistics, we hold, are capable, like the yeast in the bread, of developing much poetry and imagination, the true sustenance of life. A famous novelist once acknowledged his plots to have been evolved from slight incidents which he came upon in the daily press. Consider, for instance, the statistical statement that "consumption kills every third or fourth adult." What a picture does this simple fact conjure up of suffering among the sick of this disease, of hardship and sadness among their surviving families, of poverty, rotten living conditions, occasionless burdens under which so much of humankind grunts and sweats and dies untimely. And how better appeal to the imagination of the electorate than by the simple statement that consumption brings about an annual loss to the country of at least $240,000,000.

The science of the compilation and application of statistics owes its inception to the general scientific spirit of our age; and on the other hand statistical science is absolutely essential to general scientific development—forms, in fact, the basis of the latter. A survey of the progress of statistics made at the tenth session of the International Statistical Institute recently held in London, revealed that statistics are almost coeval with the century of great inventions. This Institute represents a movement for the improvement of this agency for social reform. The object it has very largely in view is to make scientific statistics no longer insular or continental, but of universal scope and application. It is expected that this sound foundation will be furnished for the work of legislation and administration; such is indeed in large measure already the case. The science of comparative economic conditions will be simplified by the reduction of the statistics of different nations to a common basis. City mortality, the classification of occupations, the methods of industrial remuneration, the mutual relations of international trade, and many other factors which make up modern civilization would thus be reduced to uniform methods of computation.

Of course statistics must before acceptance be examined from all points. There is not now, nearly as much as formerly, occasion for the observation that statistics can be manipulated to prove any position one cares to take. Nevertheless, although the science has been much improved during the last century, it cannot, in the nature of things, be absolutely divested of the personal equation—as witness, vital statistics. One would think that birth and death rates can depend on nothing but accurate counting and properly calculated percentages. But, to begin with, some purely conventional treatment of still births must be adopted. Whether they are counted among both births and deaths, or among one only, or discarded altogether, will make a very perceptible difference in the numerical results. Besides, it must be decided, to start with, whether the percentage of births and deaths is to be computed on the basis of the initial population, or upon that of the population as its numbers are altered by these very processes.

The science of statistics must in fact be content to be a handmaid of the other sciences. It must not assume that the scientific investigator will be content to have merely objective facts and figures impinged upon his mind—there would here be no scientific progress. The true scientist has imagination, as when Pasteur conceived the likelihood of the rôle played by germs in disease, or when Koch conceived a specific bacterium to be in a causative relation to tuberculosis. Having formed his conception then does this true scientist search for data in support of his hypothesis, which he either maintains or abandons according as he is successful in his search.

So long, then, as the science of statistics is content to remain "an humble vestal in the temple of Truth" must she continue to be a powerful and indeed an indispensable factor in human progress.

THE EAVESDROPPING SCIENCE.

Physical diagnosis is the science which seeks to point out the condition of things in enclosures which it may not enter, concerning which all conjectures must be made from the outside. It is therefore exceedingly difficult work, and occasional mistakes should, rather than surprise us, be taken as a matter of course. Among such is that noted by R. N. Wilson (*Med. Notes and Queries*), who has seen a caseous pneumonia with amphoric breathing, a tympanic percussion note, a brilliant cracked pot sound and whispered pectoriloquy, in which the autopsy showed no cavity to be present. Wilson suggests the use of the tuning fork in the diagnosis of cavities; and we believe much can be made of this suggestion if it be thoroughly worked up. It is no more odd than the consideration of pitch intensity, quality and duration of the percussion note upon which we now rely. Wilson places the stethoscope over healthy lung tissue, and the tuning fork, set in rapid vibration and placed with the handle touching the skin, is made to approach the bell of the stethoscope. As the fork passes from normal tissue to a consolidated area the pitch rises and the note becomes much clearer; it may, indeed, become evident for the first time. If next it passes over a superfinal cavity the note takes on a clear, sweet, musical character, which is never simulated by any other condition.

FORESTRY AS RELATED TO PUBLIC HEALTH.

THE preservation of our forests is certainly closely related to the public health, and the subject should interest the members of the medical profession as well as philanthropists in general. If our mountains are denuded, the water supply will be deficient even to the extent of endangering that required for drinking purposes and for cleanliness.

The subject is brought to our attention at this time by the efforts being made to save the forests in New Hampshire.

The lay press is exerting much energy in the undertaking, that excellent paper, the *Boston Transcript,* having already devoted considerable space to its consideration. According to the *Transcript,* General M. C. Wentworth, a member of the New Hampshire State Forestry Commission, sees little hope of having the White Mountain forests saved by the action of the State or National Governments. He believes that it will be so long before the New Hampshire Legislature or the National Government can be induced to appropriate the sum necessary, that the forests will have been cut, and permanent harm done. The New Hampshire Forestry Commission is empowered to condemn forest land when the cost of its purchase and future care is guaranteed by the parties petitioning for such action. Last fall, when work had begun on the stripping of the slopes of Mount Monadnock, toward the town of Jaffray, the citizens and summer boarders started a petition to have this land taken for a State park. A part of the tract was covered with the original forest and some with second growth timber. The petitioners, to save the primeval woods, backed their petition with a subscription necessary for the purchase, and that mountain side, of several hundred acres, is now a State park. General Wentworth believes that the same thing should be done in the White Mountain region, and offers to pay a thousand dollars himself toward a subscription to accompany a petition for the saving of the White Mountin forests. We believe that the people of New Hampshire and the thousands of summer boarders from other States would gladly support such a project, and that this plan is entirely practicable. It may not be possible to secure half a million dollars for this purpose, but enough could be secured to save a considerable part of the most desirable forest area.

If these forests can be acquired, there is an opportunity to render to the permanent residents of New Hampshire and to its summer population a noteworthy service. The census shows that fully three-quarters of the land area of this State, are under some form of forest cover.

There exists in the State a most efficient society called "The Society for the Protection of New Hampshire Forests," of which ex-Governor Hon. Frank W. Rollins, of Concord, is President.

This Society, according to the report just received, is doing yeoman service in protecting the young growth by employing foresters in starting new forests, in promoting forest legislation, and in many other ways too numerous to mention. If any of our readers are interested in this cause or in the starting of a white pine forest, write to Mr. P. W. Ayres, State Forester, Concord, N. H., for his report. The subject of forest insects is also elaborated in a practical manner.

At a notable meeting of the National Forestry Congress in Washington, last January, Rev. Edward Everett Hale, Chaplain of the Senate, spoke forcibly of the mountain region in New Hampshire, as he knew it years ago, and its present condition when the last remnants of virgin forests are disappearing, of the operations despoiling the Presidential range, of the principal rivers in New England rising in the White Mountains, upon which many cities depend for manufacturing power, for navigation, and for drinking water, and of the desecration of one of the nation's places of rest and recreation.

The White Mountains, as Dr. Hale has so well pointed out, afford a resort greatly to be desired in one of the most densely populated parts of the country, and are used by many people beyond New England.

The members of our profession should be interested in the movement for many reasons, and if each will do his mite and urge others to do likewise, a great public benefaction will result.

MALINGERING.

IN probably no other phase of life has so much ingenuity been exercised as in the simulation of disease. As in the graver forms of malefaction, if such ingenuity were employed in equal proportion to honest ends, the resulting benefit would be positively dazzling. The science of malingering has become so perfected, in these days of morbid pity for the pseudo-afflicted, that its detection has become one of the most difficult of the physician's duties. In the art of shamming disease, states the *Lancet* truly enough, the rewards of proficiency are great.

Cases will recur to every practitioner: That of a famous beggar in the city of London, whose voluntarily paretic limbs stirred up the lively compassion of the passers-by, even of the poor, so that charitable gifts liberally flowed into his facile palm. A soldier was seized with paralysis of the right arm, the loss of power coming on suddenly and without obvious cause. All efforts of the suspecting regimental surgeon were unavailing, no proof being forthcoming that the lesion was feigned. The man passed triumphantly two medical boards, and was discharged. As he went off from the barracks on the top of the coach (it was in the day before railways) he waved a hearty good-bye to his comrades with his paralyzed arm. (*Lancet.*)

In the days when it was necessary for a soldier to bite off the end of the cartridge in loading his musket, not a few had one or more teeth filed down or extracted so as to obtain exemption. We recall the diverting story of a man who at the onset of the civil war between our states, bethought him to have his index (the trigger) finger amputated; hoping that by this means he would be exempt from service. He made his wife his accomplice. They went into the back yard. He placed his finger upon the block where the family decapitation of fowl was done; his wife raised the hatchet usually employed for that purpose. At the moment of its descent the man's heart failed him and he withdrew his finger. He asked his wife to try again, declaring he would be firm this time. Again his heart failed him at the "psychological" moment. He asked his wife to try once more. This time he was determined that he would not falter; nor did his courage then fail him. But his wife, for her part, had reached the conclusion that now she would "take no chances." She considered that if she aimed for his wrist, she would just about catch the finger as it was being withdrawn. The man lost his member behind the carpus.

Cline had a case—a "pressed" sailor in the British Navy. (And under such circumstances, if ever, the malingerer is justified.) This man fell on his head, sustained a slight depression of the skull. He immediately became unconscious and all efforts to arouse him failed. He lay quietly, never moved, seemed deaf to all sounds; and at no time uttered a word.. He could swallow foods, solid as well as liquid; and indeed made signs with his lips and tongue about meal time. This "unconsciousness" lasted for thirteen months. Then it was resolved to raise the depressed spiculum; flaps were made; a trephine was applied. "An elevator was then introduced to raise the bone, and as the bone was lifted up consciousness suddenly returned to the patient and he spoke." At that time the case was accepted as genuine; but we would not nowadays believe that the patient really lay unconscious for thirteen months, suddenly regaining his senses on removal of the depressed fragment of bone. The man was certainly a malingerer; and took this arduous method of leaving a service into which he had been forced.

Malingerers, to attain their ends, will endure an extraordinary amount of pain and discomforture. A limb, for instance, has been held in a fixed position for many months, the application even of the actual cautery not sufficing to move it. Simulated joint affections are very various and by no means rare. Mental derangement is a favorite form of deception. The manifold and protean phases of hysteria are often simulated. Here we must bear in mind Moebus's definition of hysteria, as being a condition in which "morbid ideas control the body." Insanity is often feigned; the investigator will here be helped by the fact that two forms of insanity are apt to be stimulated in combination. The malingerer moreover cannot simulate successfully the persistent insomnia (prolonged beyond several days) which often occurs in the insane. The various cutaneous aberrations (hyper- or an-esthesia and the like) are easily feigned; "spinal concussion" is a frequent "dodge."

Attemps at malingering have oftentimes proved disastrous. As where a man excited an ulcer of the leg by means of a copper coin—with resulting gangrene, necessitating amputation below the knee. Another, in trying to excite hemophysis, swallowed a cork in which pins were inserted. He spat up blood realistically enough; became very emaciated; and died suddenly. On autopsy the cork and pin were found to have lodged in the pharyngo-esophageal junction; there was ulceration both into the esophagus and the common carotid.

To detect malingering is not always easy. Threat of severe methods of treatment is sometimes but not always effective. Threat of the actual cautery has cured not a few paralyses; but there are many cases in which it will be endured with equanimity. A man who simulated blindness was placed on the edge of a jetty and told to walk straight forward; he stepped out and fell into the water knowing that those who tested him would not dare let him down. Another who seemed to have paralysis of an arm allowed the knife to be placed close to it without flinching; but when thrown into the river he swam, using both arms vigorously.

Deception is often detected by suggesting to the patient new signs and symptoms. To say, in the hearing of a case with a supposedly paralyzed arm that "it is strange the little finger is flexed—it ought to be straight," may reult in the little finger assuming the suggested position at the next seance. Anesthesia will clear up many an imaginary sructural lesion.

PORTLAND—1905.

THE playgoer will tell you that the best part of a performance is its recollection. To attend a Shakesperian production—As You Like It, for instance—is an event. But this is nothing to the way in which the various scenes and speeches percolate into one's nature and temperament during the days and weeks following.

The physician who went to the Portland meeting of the American Medical Association is now in a like wholesome and contented frame of mind. The trip across the continent was good, wives and children in many cases accompanying, with here and there a sister or a mother-in-law; and in many cases several families making up special parties on special trains. Thus also traveled many fellow-members in local societies. The hospitality of this Pacific City of Roses, under the stimulus of its genial physician-mayor, was as generous and hearty as it was thoroughly appreciated. The scientific sessions were fully up to the highest standards of other years. The Lewis and Clarke Exposition was seen with much gratification. The physician, forgetful for the time being of prescriptions and the dreary monotony of patients' complaints, enjoyed with his family and friends side trips to the Yellowstone Park, to the Yosemite, to Canada and Alaska. In the excursion on the Columbia river he perhaps caught salmon the sizes of which are now no doubt increasing an inch or so with each repeated story of the trip. For now is the pleasant aftermath of this memorable junketing; the physician having assimilated all this pabulum on his vacation, is now digesting it happily and profitably either at his fireside, in slipper and easy chair, or among such of his colleagues as were unfortunately not able to leave their homes.

In retrospect we note several important matters which were the outcome of this excellent meeting:

It was decided that in future the expense of the entertainment at the yearly meetings should be incurred by the Association. This is right; the whole-hearted hospitality dispensed by our Portland brethren must certainly have been an unjust claim upon many of them.

There are now nearly 20,000 members; during the past year some four thousand physicians joined. At Portland there were hundreds of non-members who took part in the scientific sessions; many of these signed the roll on the spot. All good physicians should become members, and thus insure a united medical fraternity.

It was found that by far the best attended sessions were those in General Medicine and Surgery. While many deservedly famous specialists attended, the number was not nearly so great as on former occasions. Verily it is possible that the general practitioner may venture abroad in the land, and come again into his own.

The papers read and the discussions were of the highest order of merit, as our readers will see from several epitomes which will appear in our clinical and therapeutic columns. Funds for the erection of the Rush monument and of the Walter Reid memorial were assured.

Three great movements were set on foot and are especially emphasized by the *Journal* of the Association: (1) The authorization of the publication of a medical directory by the profession itself.

(2) The emphatic endorsement of a movement inaugurated to suppress the rostrum evil.

(3) The completion of the machinery for systematically developing a higher standard of medical education through the appointment of a salaried secretary for the Council on Medical Education, who will devote his time to the work outlined by the Council a year ago.

Boston, 1906.

The chlorides and metabolism have been studied by Calabrese (*Riv. Crit. di Clin. Med.*) who has found a greater decomposition of albumins to follow upon a decrease of sodium chloride; the blood has also become poor in corpuscles and in hemoglobin. He concludes that table salt aids digestion not only as a condiment, but as an indispensable element for maintaining the normal condition of the organism.

BIBLIOGRAPHICAL

Dietetics for Nurses.—By Julius Friedenwald, M.D., Clinical Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore; and John Ruhrah, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. 12mo volume of 363 pages. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $1.50, net.

"Dietetics for Nurses" has been written on the same practical lines as the larger work on Diet by the same authors. It has been prepared both to meet the needs of the training school and to serve as a ready reference book for the nurse when on a case. The essentials of dietetics are given in a concise, clear manner, and the physiology of digestion with the various classes of foods and the part they play in nutrition have been carefully reviewed. The subjects of infant feeding and the feeding of the sick have been fully discussed, and a brief outline has been given of the principles involved in the nourishment of patients suffering from the various diseases in which diet plays an important role in treatment. A very useful feature consists in the extensive diet lists, with instructions, enabling the nurse to comprehend and intelligently to carry out the orders of the physician. Another commendable feature is the large number of recipes for the invalid's dietary. Altogether, it is an excellent little work indispensable to the well-trained nurse.

"The Psychic Treatment of Nervous Disorders."—By Dr. Paul DuBois, Professor of Neuropathology, University of Berne. Illustrated by Smith Ely Jelliffe, M.D., Ph.D., and William A. White, M.D. 8vo, cloth, 471 pages, price, $3.00, net.

This work gives the experience and principles of psychic treatment of nervous disorders, based upon twenty years of successful specialization and practice in this branch of medical skill. The work of the author is both that of psychologist and physician. Besides many psychological considerations, the author provides full descriptions of the methods used in his practice of psychotherapy.

The book is timely and worthy a place upon our shelves.

A Practical Treatise on Sexual Disorders in the Male and Female.—By Robert W. Taylor, A.M., M.D., Clinical Professor of Genito-Urinary and Venereal Diseases in the College of Physicians and Surgeons (Columbia University), New York. New (3d) edition, enlarged and thoroughly revised. In one octavo volume of 575 pages, with 130 engravings and 16 colored plates. Cloth, $3.00, net. Lea Brothers & Co., Philadelphia and New York, 1905.

The eminent standing of the author of this excellent book in the profession accounts for the demand for three large editions of this volume in less than five years. The text covers in a practical manner the sexual disorders of male and female in all their bearings. In the present edition the anatomy and physiology of the subject have been amplified and many new illustrations added. The text has been treated in careful detail in the interest of diagnosis and treatment, both medical and surgical. Much new matter has been added especially in the sections devoted to the disorders of women. The work will be found of great practical value to the specialist as well as to the general practitioner.

Manual of the Diseases of the Eye for Students and General Practitioners.—By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology College of Physicians and Surgeons, New York, 1890-1903. Ophthalmic Surgeon to the City Hospitals, Randall's Island, New York, etc., etc. Fourth edition, revised, with 360 original illustrations including 21 plates, with 60 colored figures. New York: William Wood & Company. 1905. Pp. 391. 12mo.

The author presents in this volume a concise, practical, and systematic manual of the diseases of the eye, suitable for the student and the general practitioner. It is not an easy matter to prepare such a book, and only an experienced teacher such as Dr. May should attempt this work.

The book is sufficiently comprehensive, up-to-date, of limited size, and still all the essentials are given for the purpose intended. The popularity of this volume is unmistakably shown in the manner in which the editions have succeeded each other, to say nothing of its translation into various foreign languages. The work can be highly commended.

A Text-Book of Physiological Chemistry for Students of Medicine.—By John H. Long, M. S., Sc. D., Professor of Chemistry in Northwestern University Medical School, Chicago. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1905. Pp. 434. Octavo. Price, $2.50.

The author presents in suitable form in this volume, a brief account of the important principles of physiological chemistry for the use of medical students who may be assumed to have completed courses in the elements of general inorganic and organic chemistry. There is also given an outline of the chemical phases of the recent theories of immunity, and a short explanation of the important applications of the methods of cryoscopy and electrical conductivity and other physical processes in the field of chemistry related to medicine. The book is well suited to the use of the medical student to whom it is commended. The text is clearly expressed in concise language.

The Pharmacopœia of the United States of America.—Eighth decennial revision. By authority of the U. S. Pharmacopœial Convention held at Washington, A. D., 1900. Revised by the Committee of Revision and published by the Board of Trustees. Official from September 1, 1905. Philadelphia Agents, P. Blakiston's Sons & Company. 692 octavo pp.

This great work, which has been so long under revision, is now in the hands of the profession, and a debt of gratitude is due the committee which has performed the arduous undertaking.

There are so many changes in the text, that the old edition is useless, and every physician and druggist must have the new.

The standards of purity and strength prescribed in the text, are intended to apply to substances which are used solely for medicinal purposes and when professedly bought, sold, or dispensed as such.

The most important point in the revision is the change in strength in many of the preparations, in the interest of uniformity.

There is a comparative table showing the strength of the more important pharmacopœial substances and preparations in the preceding and in the present Pharmacopœia. There is a list of articles added, a list of articles dismissed and a list of changes of official English titles. There is also much other valuable information along the line of its subject, in addition to the description of the specific drugs mentioned.

This authoritative work must find a place in every medical or pharmaceutical library.

A Ready Reference Hand-book on Diseases of the Skin.—By George Thomas Jackson, M.D., Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons (Columbia University), New York. Fifth edition, enlarged and thoroughly revised. In one 12mo volume of 676 pages, with 91 engravings and 3 colored plates. Cloth, $2.75, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1905.

The great value of this volume lies in the clearness of its symptomatology and diagnosis, and the excellent judgment used in its therapeutic recommendations.

The clear diction and the very convenient alphabetical arrangement renders the work not only an exceedingly quick reference book for the busy physician, but adapts it especially to the needs of students. The demand for five large editions is ample evidence of the popularity of the book. Each edition presents a thorough revision of the subject, so that the work may always be consulted for the condition of the science of Dermatology as it really exists. The present revision has been particularly searching, and the subject matter has been brought well up to date. The Appendix, containing formulæ for Baths, Lotions, Ointments, Powders, etc., and prescriptions for internal treatment, is alone worth the price of the book.

Many new sections have been added, resulting in a considerable increase in size, and the work will be found of great value to practitioners, students and teachers.

A Text-Book of Pathology and Pathological Anatomy.—By T. Henry Green, M.D., F.R.C.P., Consulting Physician to Charing Cross Hospital, London. New (10th) edition. Thoroughly revised by W. Cecil Bosanquet, A.M., M.D., F.R.C.P., Assistant Physician to Charing Cross Hospital. Octavo, 606 pages, 348 engravings and a colored plate. Cloth, $2.75, net. Philadelphia and New York: Lea Brothers & Co., 1905.

The vigor and vitality of Green's Pathology are excellent evidences of qualities which have won the favor of the profession. A book which has reached its tenth edition stands in no need of an introduction. This work has been from its first edition a simple, clear and adequate presentation of pathology and pathological anatomy—the foundation of all medicine. Each edition represents a thorough revision, but none, perhaps, so thoroughgoing as the present. The pages of this work have, therefore, always been consulted for the recent advances and condition of its science, and the diction of the work is so clear, so directly to the point, so easy of understanding, that the popularity of Green throughout the student world, and equally as a quick reference for the busy practitioner, is not to be wondered at.

Ergophobia is a new disease or rather a very old disease with a new name, which is derived from the Greek ergon and phobos and means a hatred or terror of work. This was the name applied by an English lawyer to the malady from which his client, a vagrant, was suffering; but the judge was uninfluenced in passing sentence by the impressive nomenclature.

RETROSPECTIVE THERAPEUTICS

Fluorescence in the human organism is discussed by W. J. Morton (*Jour. A. M. A.*), who holds that this influence is a sort of phototherapy dependent on the same principles as fluorescing solutions, electricity, etc., for its curative effects. The method includes filling cavities with fluorescent solutions as well as using these latter medicinally; effects are produced by the fluorescent excitation of the absorbed drugs, not due to the X-ray or to radium, but to the fluorescent light. What the latter lacks in intensity is compensated for by its nearness to the tissues. It is also possible by this means to improve skiagraphic effects and fluoroscopic examinations; the position and size of the stomach and other cavities can thus be determined; the thorax can be illuminated on the fluoroscope far more than it can by the X-ray alone. Morton reports good results in tuberculosis and cancer.

Ophthalmia Neonatorum is perhaps as serious a condition as any which may confront the physician, dooming the individual, as it sometimes does, to blindness from birth to the grave. It is, we believe, good routine practice to have always in the obstetrical bag a five-grain to the ounce solution of silver nitrate (the Credé method) and to instill a drop between the infant's lids immediately after delivery. As the head of the infant passes through the vagina any discharge may penetrate the palpebral fissure and infect the conjunctival sac. Two or three days after an acute purulent conjunctivitis may then supervene. There will then be swollen red lids, frequently adherent; when separated a purulent discharge appears. Neglect will almost certainly result in infiltration and finally perforation of the cornea with ultimately partial or complete blindness. The *Practitioner* divides treatment into prophylactic and curative. Leucorrhea or gonorrhea in the mother should be ascertained months ahead and cured. If it is not discovered until labor, the vagina should, if possible, be washed out with a weak antiseptic solution, such as 1-2,000, followed by 1.400 bichloride. Directly the child is born its face should be carefully washed with previously boiled water, especial care being taken with the eyelids; during the first bath the water of the bath must not come in contact with the child's face. The lids should then be separated and the eyes washed out with 1-6,000 bichloride (warm). One or two drops of nitrate of silver (Credé) or argyrol (20 per cent.) or protargol (20 per cent.) should then be instilled. For several days afterward the eyes should be watched for purulent discharge. Curative treatment begins with hourly washings of the conjunctiva with warm bichloride (1-5,000), completely removing all discharges. After several hours the palpebral conjunctiva should be carefully dried with soft lint and painted over with a ten-grain to the ounce solution of silver nitrate; and the conjunctival sac should then at once be washed out with a saturated solution of sodium chloride to neutralize the effect of the silver nitrate. This is done every day until the discharge ceases. Or a fifty per cent. solution of argyrol may be used in the same way; it is less irritating than the nitrate. A hazy cornea requires a drop of atropine (2 grains to the ounce) once a day; this tends to prevent iritis and synechiae. The margins of the lids should be smeared with unguentum cetacei or vaseline, so that they will not become adherent during sleep. Within a week the discharge should cease. The cornea rarely escapes altogether and if no other of the more common complications has occurred, it is found to be nebulous. To clear up opacities Pagenstecker's ointment (one grain of yellow oxide of mercury to the drachm of pure vaseline) should be used; or ℞ Unguentum Hydrargyni Oxidi Flavi, pt. i; paraffini mollis, pt. iij; pt. unguent. A piece about the size of a small pinhead is to be brushed inside the margin of the lower lid every evening. This treatment should be continued for months, but as a rule the cornea will not become completely cleared. In all examinations the whole cornea must be seen in full; to this end the infant's head must be placed between the knees, and a suitable lid retractor used, great care being taken not to press upon the eyeball.

The diagnosis between typhus and typhoid fevers is not difficult in epidemics; it may be so, however, in sporadic cases. The *Practitioner* (April, 1905) would impress the following facts in the diagnosis of typhus: there is no preliminary epistaxis, though there may be bronchial catarrh; the onset is sudden, often with a rigor, the temperature rising to 102° or 103° F. in 12 hours, the pupils are equally contracted; the expression is dull, the conjunctivæ are suffused and the face generally congested; nervous symptoms and great prostration are early pronounced; the pulse is quicker than in typhoid and is not usually dicrotic; the abdomen is as a rule normal —not tender; there is no diarrhea or hemorrhage from the bowels; there are red papular spots which appear from the third to the fifth day on the trunk and extremities. They do not come out in crops. Hemorrhage takes place into the crops later; there is no subcuticular mottling; coma vigil is not infrequent; the blood does not give the agglutination test; the temperature varies between 101° and 104° for the first fortnight and then comes down more or less abruptly, crisis sometimes occurring. We like the *Practitioner's* term "enteric" fever, which is evidently that used by English physicians; it is less confusing than "typhoid," which is moreover a disease which present-day knowledge shows to be not scientifically related to typhus fever, although it was formerly supposed to be so.

Chlorosis requires for its successful treatment four factors (*Practitioner*): (a) Some form of iron, preferably Blaude's pills, in increasing doses. Osler gives one pill three times daily after meals during the first week; two tid, during the second week; and three tid during the third. The dose may then be diminished, but the patient should have some salt of iron for three months at least. (b) Rest in bed in a well-ventilated room or on a couch in fresh air. In chlorosis the cardiac muscles undergo fatty changes and if the heart wall is to recover itself and functionate normally afterward, rest is essential during the treatment. (c) A light, nutritious easily-digested diet. Milk is excellent except that it contains too little iron and that large quantities must be taken (and absorbed) to be beneficial. (d) The bowels must be carefully regulated. Constipation predisposes to chlorosis, and, if continued, may render the condition much worse. Saline purgatives (a mixture of magnesium and sodium sulphates) should be given every morning or every other morning. The following is an excellent prescription (which must be discontinued, however, if the first ingredient occasions gastric symptoms): ℞, Tincturae ferri perchloridi, M. xij; magnesii sulphatis, gr. xx; sodii sulphatis, gr. xx; glycerinii ʒss; infusi quassiae ad. ℥i; M. ft. mixt.; two tablespoonfuls to be taken three times daily after meals. Sir Andrew Clark's prescription was as follows: ℞, Ferri sulphatis, gr. iv; sodii bicarbonatis, gr. x; sodii sulphatis, ʒi; tincture zingiberi, M. xx; spiritus chloroformii m. viij; infusi guassiae ad. ℥i; M. ft. mixt. Two tablespoonfuls twice daily after meals.

What Hunger is Scientifically is described by M. I. Knapp (*Amer. Med.*), as the sensation felt because of the contraction of the muscularis, either of the pylorus, or possibly also of the entire stomach, or of the duodenum; or of the muscular contraction in all these structures. If the contraction is more intense it is felt as a painful hunger; if it is slight the sensation of the hunger is also of a slight degree—sometimes evanescent. Hunger is a lesser degree of pain; and being produced by muscular contraction passes away after a certain lapse of time, even if no food has been taken. This means simply that the muscularis becomes tired and contraction gives way to relaxation. Absence of contraction, the inability to contract, relaxation, distension (all conditions being the reverse of contraction) result in anorexia, the opposite of appetite; provided, however, that such distension and the like are not caused by an overabundance of irritating acid gases.

Anorexia is the sensory symptom of distension of the stomach and upper portion of the intestine by non-irritating gases, accompanied by complete or partial relaxation of the sphincter—the condition which obtains in chronic gastritis, pyloritis and duodenitis.

The Sleeping Sickness was well described by Col. Bruce of the British Army Medical Corps before a Pietermaritzberg audience. Beginning in Uganda, the commission sent out by the Royal Society found that the disease existed only in a narrow area lying along the shore of the lake of that name. It occurred also on both banks of the Nile as far as Lake Albert and north along that river as far as Wadelia. The inhabitants in the small islands which dot the northern part of Lake Victoria are great sufferers. Thus the disease has evidently some predilection for the vicinity of open water, and the commission set out to ascertain the cause of this. In South Africa there has been a disease among cattle and other domestic animals also caused by a trypanosome (the causative agent in sleeping sickness)—the *Trypanosoma brucei.* This typanosome was conveyed from the sick to healthy animals by means of a biting fly, the tsetse fly (Glossina morsitans). It was therefore conjectured that in all probability the sleeping sickness would be found to be conveyed by a biting fly. Collections of all such insects in Uganda were made with the astonishing result that the distribution of sleeping sickness and of a biting fly, the *Glossina palpalis,* corresponded absolutely with one another. Further experiment then demonstrated that this biting fly could carry the disease from the sick to the healthy for a period of forty-eight hours. Other species of flies, subjected to precisely the same conditions, failed to give any result. Lastly, tsetse flies caught in the sleeping sickness areas and placed at once on healthy monkeys conveyed the disease in every case. The sleeping sickness, which kills every one it attacks, has already caused the death of several hundred thousands among the natives of Central Africa. It was slowly spreading around Lake Albert to the south of Lake Victoria—wherever, indeed, the *Glossina palpalis* exists to convey it. There is no saying, declared Col. Bruce, to what extent it will not further devastate the African country. There is danger of its being conveyed across British East Africa into the "fly belts" of the East coast; even of its being conveyed to India, where a similar disease, called surra, exists among horses, and where there might exist a biting fly capable of spreading it.

Resorcin spray in Sycosis is advocated by M. S. Belgodere (*La Semaine Medic*). A one per cent. aqueous solution of resorcin is used in an atomizer, the nozzle of which is held eight to ten inches from the affected part, and is employed for from ten to twenty minutes daily. The spray passes easily through the hair and penetrates to the skin. The hair is not shaved and it is not considered necessary to apply wet dressings of the solution, except during the night in severe cases. Belgodere finds that under this treatment the induration disappears and the tissues regain their normal condition, the cure necessitating a period of from two to seventeen weeks. We should say that since the parasite infects the roots of the hair beneath the epidermis nothing but epilation and inunction of resorcin or oleate of mercury ointment would be effective; under this latter (though more painful) method a cure should be earlier accomplished.

Landerer's Treatment of Pulmonary Tuberculosis is described by F. Schrage (*Munich. Med. Woch.,* 1904, No. 44). The objects are to produce (a) a general leucocytosis, and (b) an aseptic inflammation about the tuberculous foci. Landerer employs hetol, an easily soluble preparation of sodium cinnamate. Incipient and uncomplicated cases—having no rise of temperature and with but slight destruction of lung tissue—are most likely to be benefitted. Apyretic cases, with small cavities, are also reported to be amenable. It is considered that rapidly progressing and advanced cases should be treated only in sanatoria. The cinnamate seems to be curative in properly selected cases; following the injections, the evening rise of temperature, the rales and the night sweats disappear; the weight increases; the sputum is less and becomes bacillus-free. Schrage considers that the efficacy of this treatment should encourage us to make the diagnosis as early in the disease as possible. We thoroughly agree with Schrage, and would urge continued experiment with hetol. The search for some medicinal agent which will be distinctly curative in tuberculosis should not be abandoned. We should warn, however, against the use of any drug which might prove irritant or nauseating; the use of such a medicament would certainly prove untoward rather than beneficial. Moreover, it is precisely in the class of consumptives which Schrage indicates as suitable for hetol administration that cures are now being frequently effected without resource to the materia medica. We should note also that rapidly progressing and advanced (hopeless) cases should not be received in sanatoria, but in hospitals or homes for consumptives. In sanatoria only incipient and hopeful cases should be treated.

The "Pneumonia Commission" formed by Dr. Darlington of the New York Health Department, and officially known as "The Medical Commission for the Investigation of Acute Respiratory Diseases," has submitted a preliminary report of the utmost importance. Most of the papers comprising this report are to appear in the forthcoming issue of the *Journal of Experimental Medicine,* which is published under the auspices of the Rockefeller Institute for Medical Research. A valuable preface to the reports, signed by Dr. Darlington and Dr. Biggs outlines the causes and objects of the investigation. After stating that during the ten years ending in 1893 there has been a relative increase in mortality from acute respiratory diseases in New York City of 100 per cent., it is stated as unquestionable that the exciting cause in each of the diseases of this group is a micro-organism which requires for its growth and multiplication such conditions as are usually to be found only in the living body, outside of which these germs do not under natural conditions multiply to any extent. The infection must practically always be the result of communication from one human being to another. These diseases are, then, essentially communicable, and, therefore, they should, theoretically, at least, be preventable. The difficulties in the way of prevention arise largely from the wide distribution of the organisms. Streptococci, pneumococci, influenza bacilli, singly or combined, are present in almost all morbid conditions in the air passages of those living in large cities—also, indeed, to a very large extent in those of healthy urban inhabitants. The sanitary code for New York City at present includes the diseases under consideration in the class in which partly voluntary and partly compulsory notification is required. This provision of the Sanitary Code has, however, not yet been enforced. As a result of the preliminary report we are now considering, Commissioner Darlington and his eminent colleague consider that provision should now be made for enforcement. Notification of cases should be insisted upon. Dr. Biggs, in an "introductory note to studies on the pneumococcus under the auspices of the medical commission," states that lobar pneumonia was first studied in the following aspects: the occurrence and virulence of pneumococcus and organisms related to or resembling this, in the human mouth in health and disease; the evidence of variations in virulence of the pneumococcus; the occurrence of the pneumococcus in children's hospitals, homes and asylums, with a study of the bacteria of mouths before and after outbreaks of pneumonia; the vitality of the pneumococcus under various conditions; mouth disinfection. One of the earliest phases of research by the commission was the determination (for the identification of species) of the characters of the pneumococcus, to which end a comparative study was made of the coccus from cases of true lobar pneumonia and of that from normal mouths and throats hitherto generally assumed to be identical with the pneumococcus, also such a study of streptococci as would suffice for their separation from the pneumococci. The method adopted in these studies was, first, to secure the cooperation of noted bacteriologists in various places, who should make independent studies; and, second, to establish a central laboratory, or "clearing house" to which ultimately cultures from various independent workers should be sent for comparative study under a single observer. In this way might light be thrown upon atypical forms, variations, etc., and greater precision achieved in determining the characters relied upon for identification.

Some important conclusions were reached in this preliminary report:

Drs. Wm. H. Park and A. W. Williams find that: Typical pneumococci were present during the winter months in the throat secretions of a large percentage of healthy individuals in both city and country. Since the virulence of pneumococci may be rapidly increased for a susceptible species of experimental animal by successive passage, and since pneumococci obtained from most pneumonias are more virulent from experimental animals than are those obtained from healthy individuals, therefore the virulence of pneumococci from cases of human infection is probably increased from human beings; hence cases of pneumonia should be considered to a certain degree as contagious and, since the virulence of the pneumococcus may be greatly increased and since the organism is very prevalent in normal sputum, all possible measures should be taken to restrict public expectoration. In general accord with these are the conclusions of Drs. W. T. Longcope and W. W. Fox, of Philadelphia.

Drs. C. Norris and A. M. Pappenheimer, of Bellevue, New York City, in "a study of pneumococci and allied organisms in human mouths and lungs after death," find that the cultural findings after death are no guide to the bacterial contents of the lungs during life, and that any deductions made from such findings are unreliable and deceptive. Any of the germs present in the mouth and passages and in many cases in the stomach contents may enter the lungs; and, if the conditions be suitable, increase in numbers during the time between death and the examination of the lungs.

To Prof. P. H. Hiss it seems "more than probable" that practically every one, at least in winter, when exposed to environmental conditions, such as exist in New York City, acts at some time or other as the host of organisms of the true pneumococcus type. No normal individual examined by him had had a recognized pneumococcus infection or "cold" within a recent time nor, with two well-marked exceptions, did any symptoms of infection develop in those whose mouths were found to contain pneumococci. These two exceptions strongly suggest the causative relation between pneumococci and some, at least, of the "common colds."

Prof. F. C. Wood, of the College of Physicians and Surgeons, New York City, concludes: (a) The life of the pneumococcus in moist sputum is of long duration—a fortnight—unless the material is exposed to direct sunlight. But as such sputum does not give off bacteria even when exposed to strong currents of air, it is innocuous except to those handling possibly contaminated clothes, bedding, etc. Under ordinary conditions, however, such sputum soon dries and may be powdered mechanically and be distributed in the air by sweeping and dusting. However, the organisms in the sputum do not remain long in suspension and are likely to die off under the action of light and desiccation. In sunlight or diffuse daylight the bacteria in such powder die within an hour and in about four hours in the dark. Ample illumination and ventilation and the avoidance of dry sweeping and dusting should therefore obviate much of this danger; (b) particles which a sufferer from pneumococcus infection coughs, sneezes, expectorates or "talks" out may contain virulent germs; may be inhaled by others or be deposited upon various articles in the room. However, whether suspended in the air or dried on surrounding objects, Hiss finds that they become harmless in a very short time (within an hour and a half), while many of the pneumococci in the spray perish in a few minutes, especially if exposed to strong light. Hiss believes therefore that the risk of infection from the pneumococcus is largely confined to those in direct contact with the patient whose excreta contain the organism.

Bread substitutes for diabetics are considered by Williamson (*Med. Chronicle*) an important subject for two reasons: because the bread usually prepared for diabetics often palls upon them and becomes distasteful to the prohibitive point; and because the insistence upon a proper diet is the one essential point in the treatment of this disease. Many patent bread substitutes are loaded with carbohydrates, many have a disagreeable taste, and most are very expensive. One should determine whether a given bread is practically free from starch and sugar; whether the taste is agreeable to the patient; whether the cost is proportionate to the patient's means; and, in the case of biscuits, whether they can be broken by the patient's teeth. Any diabetic bread should be tested for starch with iodine, and for sugar by fermentation. The most valuable substitutes are prepared from vegetable albumins—Roborat bread, aleuronat cakes, gluten bread; from nuts—almond or cocoanut cakes; from milk albumins—plasmon powder and biscuits, protene bread and biscuits, casaret bread and biscuits, kalari and prolacto biscuits. Williamson gives receipts for making at home bread, cakes and biscuits from many of these products. The cost can thus be lessened; and the baking can be done often so that the things to eat will be fresh and soft, and more suited to the teeth of diabetics, which are often carious.

The typhoid bacillus is of human origin, declares the New York State Health Department in its monthly bulletin. There is a misapprehension in many (even in medical) minds as regards milk being a medium in the spread of the fever. Suspicion need not be directed to the cows themselves; they will not give typhoid infected milk—though, of course, their health and the conditions under which they are kept and fed must be looked after. Typhoid fever may be communicated through the medium of milk from perfectly healthy cows, kept under the most sanitary conditions. The typhoid germs are of human origin. If they gain access to the milk it is after having been drawn from the animal yielding it; and the search for the source of infection of a milk-born epidemic must be prosecuted along these lines and no other.

A News Item.—A spectator of an accident on the elevated railway in this city declared, "I saw a physician, dressed in white, crawl under the wreckage and minister to the injured until he himself was caught by a falling beam. He was soon released, and continued his work." On this dreadful occasion men and women in all strata of life, doctors, priests, nurses, policemen, firemen, people living in the neighborhood, turned out to aid the injured and to care decently for the dead, with generous disregard of this own danger, acting purely upon humane impulses. But in all this noble work, none was finer than that of the unassuming unknown worker in the uniform of an ambulance surgeon. The example of this young man should be known for an inspiration to all who take up his profession and calling.

Rapid Operating.—Dr. Wm. W. Keen, who is famous for the rapidity with which he operates, when complimented on this ability by a layman, told of an English surgeon who performed a delicate operation on a millionaire's wife. The bill was suited both to the nature of the operation and to the patient's pocketbook. The husband objected on the ground that the work took but ten minutes. "If that is your only objection," said the surgeon, "the next time any member of your family needs an operation I'll keep the patient under the knife for a couple of hours."

Salting new-born babies is a custom dwelt upon by the *Dundee Advertiser* as existing in some parts of Europe and Asia. The nurse takes the new-born infant and covers its entire skin with very fine salt, which is left for three hours or more, when the child is washed with warm water. In Asia Minor there is a tribe who salt their infants thus for twenty-four hours. The modern Greeks sprinkle salt on their babies. The practice is an ancient custom having its rise in superstition; it is believed that salting insures their children's health and strength and that it will keep evil spirits away from them. Among us nowadays the salt (brine) rub with a rough towel is good practice, except that we reserve it, not for infants, but for "children of a larger growth."

The care and feeding of premature infants.—Very few infants born before the twenty-seventh week of pregnancy survive, states Morse (*Am. Jour. Obst.*, May, '05). Being undeveloped the premature infant must receive much greater care than that born at full term. The former lose heat rapidly and cannot endure low temperatures or exposure. They offer very little resistance to infection. The first object to be attained is to keep the baby alive, the second to develop its organism to the stage normally reached at term. Incubators maintain an equable temperature; but they do not supply pure fresh warm air sufficiently. A padded crib or basket, which must be carefully protected from draughts, is a good substitute. Breast milk is the food to be preferred; otherwise modified cow's milk. The older the infant the better the prognosis; the latter is bad if the weight be under two, good if it be over four pounds. There may be no gain in weight for many weeks, even though development is progressing favorably.

Many diseased emigrants reach our shores, according to a report of Dr. Morris Fishberg, an agent of the Bureau of Immigration, who was sent abroad to investigate aliens afflicted with loathsome and contagious diseases. After a careful study of Eastern and Southern Europe he is compelled to report that steamship companies can prevent these undesirable classes from coming to the Untied States. He believes the steamship companies are doing a great deal now, but they have not reached the full limit of helpfulness. There are, it seems, a great many frauds practised, particularly in Italy, in getting immigrant passengers for steamships coming to this country; and one of the greatest evils is the employment of "runners," who go through the country and picture America to the peasants as "a land of milk and honey."

MISCELLANY

Allypine, a substitute of cocaine, has been discovered by two Berlin scientists. It is said to have all the virtues of the latter without any of its ill effects.

Culicide, a new mosquito killer, has been accepted by the Marine Hospital service. It is highly explosive and only skilled employees are allowed to handle it.

The disagreeable odor of ichthyol, a drug too valuable to be neglected on this account, can be concealed by the addition of oil of citronella, 20 minims to the ounce of ointment.—Ex.

The free drinking of water is opposed by Dr. Beerwald (delectable name) of Berlin. He declares that besides creating temporary disturbance, excessive water drinking occasions organic disorders. The heart and kidneys are particularly affected by the excess; frequently the vascular system is overcharged and the heart and kidneys overworked.

750,000 plague victims in five months is the report the *Lancet* presents from India. In the Punjab, the mortality for one week was 20,000. Such facts as these, considers the New York *Times*, certainly emphasize the neglected duty of the British Goverment to do what is exigently demanded to improve the sanitary condition of its Indian dependents.

The law on the bees was invoked by a candy firm of New York City, which requested the Health Department to disperse swarms of bees whose hives are owned by the A. I. Root Company, the largest bee owners in the world. The Health Board ordered the removal of these insects, who manifested their proverbial industry by eating the syrups of the candy maker and stinging his employees.

The Shambles of Science, a foolish book, has been withdrawn from circulation by its publisher with apologies. It is in this work that Mr. C. E. Coleridge exhibited his anti-vivisectionist proclivities, which inconvenienced him to the extent of a suit for libel; he was found guilty and fined one thousand dollars, many eminent London physicians testifying that the book contained false statements.

Artificial limbs, declares S. J. MacDonald, Jr., Editor of *The American Journal of Surgery,* were in evidence even before the beginning of the Christian era. In an interesting paper on the *History of Artificial Limbs* he presented the gradual evolution of such members from the seventeenth century up to the present day, when "An American artificial leg has almost perfectly the movements of a living leg."

The Local Treatment of Rabies.—Konradi (*Centralblatt für Bakteriologie*) believes that the development of rabies can be prevented by 1-1,000 bichloride solution applied to the site of inoculation. Application should be within from twelve to thirty minutes, but may be of value even after that time. The virulence of rabie virus is reduced by the antagonism of the organism. Individual susceptibility must be reckoned with in laboratory experiments, as in practice—a wise observation.

First Aid on Trains was discussed recently by the Erie Railway Surgeons' Association. It was requested by this road that some course of instruction for railway employees be instituted, based on "first aid to the injured," to minimize the fatality in railroad accidents. Emergency boxes were recommended to be placed on all trains. Every railroad should have a special "first aid" department under the direction of a surgeon and employees in all departments should receive elemental instruction.

Is man poltophagic or psomophagic? Or, in other words, is this biped in the habit of swallowing finely mascticated food like the horse, or food coarsely chewed as in the case of the dog? Higgins (*Lancet,* May 20, '05), concludes that man is designed to be of the poltophagic variety and that if poltophagia were universally practiced the daily quantity of food required to support life would be much less than the present more or less "bolting" habits of the average man have called for.

A People without physicians were the Tupis, a Brazilian tribe, according to *The Historian's History of the World.* Their life, which approached nature very closely, freed them from most of the diseases incident to civilization. They had, morover, found a way of getting along without physicians. When they thought their relatives and friends had suffered too long they administered to them a well-aimed blow of a hammer on the head, in guise of a remedy, telling them it was better to die thus quickly than to suffer first only to die afterwards.

A school for the study of tropical medicine was recently suggested by Sir Patrick Manson, medical adviser to the British Colonial Office, in a speech before the Merchants' Association of San Francisco. Sir Patrick believed that yellow fever may yet become a source of annoyance in the changed conditions which will follow the completion of the Panama Canal, and emphasized the futility of what now passes as quarantine either in yellow fever or the bubonic plague. San Francisco posses an advantage over London for the study of tropical diseases in that it has in the population many Chinese, Japanese, Filipinos and Hawaiians.

Hygiene is twofold, public and personal (*Scientific American*). The former deals chiefly with the human mechanism and its operation, the latter with the environment of that mechanism (sanitation). One person can now no longer safely undertake to deal with the whole sphere of hygiene. The physician and the physiologist must in future leave to the architect and the sanitary engineer such subjects as housing, heating and ventilation, water supply and sewerage, precisely as the sanitary engineer has never presumed to deal with foods and feeding, vaccines and antitoxins, exercise, sleep and rest. The former subjects deal chiefly with the control of the environment, the latter with that of the individual, and sanitation and hygiene must henceforward be regarded as separate hemispheres of the science of health.

Professional courtesy was somewhat strained, states the *New York Medical Journal,* in the case of an Italian physician who was arraigned on a charge of furnishing a death certificate in the case of a child he had never seen, who had died under the care of an unqualified quack. On the physician's counsel pleading in extenuation that such was the general practice in the region where the doctor lived, the latter escaped with a fine of seventy-five dollars instead of a sentence of nine months, which the judge had first thought fit to impose upon him. The friendly practice here referred to were one much better honored in the breach than in the observance.

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The Journal of the American Medical Association in a review of the "Protonuclein Therapy in Typhoid," says: Protonuclein is indicated according to Latta in Typhoid, because it increases leucocytosis and thus adds to the resisting power of the cell structure in overcoming disease. As soon as he suspects Typhoid, without waiting to insure the diagnosis, he commences to give Protonuclein, usually giving large doses in the beginning, lessening the quantity until the system has responded to the treatment, two tablets every three hours being the usual dose, the patient taking no other food nor medicine for two hours. At the end of the first half hour of this period, 4 to 6 ounces or more of hot water are given and thirty minutes later the dose of Protonuclein and then an hour allowed for absorption. In this way every three hour period is divided into two parts, the first two hours devoted to Protonuclein and hot water and the last one to feeding and whatever other treatment may be indicated. Frequently during the first twenty-four hours no benefit may be produced. The temperature and disturbing symptoms may increase. After that both will decline. The treatment is not an abortive treatment, still, it is not unusual to have a patient better on the eighth or tenth day than would be the case with the old method at the end of the third week.

John Arbuckle, philanthrophist, has just announced that he intends to erect a home at New Paltz for men and women, old and young, who need employment in the open air and nutritious food in order to bring them back to a condition of health that will enable them to withstand the wear and tear of city life. Work upon the home has begun. Ground has been broken and the plans and specifications for the building have been drawn. The home proper will be known as the "Colony Building on Mary and John Arbuckle's Farm." Mr. Arbuckle has had small cards printed, showing the building as it has been planned. An explanatory note on the card says, in reference to the title of the farm, "My wife has better judgment and a bigger heart than I have, so her name goes first.' The Colony Building will stand on a knoll overlooking the seven farms, comprising 636 acres, which have been bought by Mr. Arbuckle. It will cost between $75,000 and $100,000, and will give a comfortable home to more than a hundred men and women year in and year out.

Mr. Arbuckle desires, if possible, that its inmates be self-supporting. To be elligible for admission applicants must be incapacitated for competition in the regular walks of business life. Old men and women, unable to battle for bread with those younger and sturdier, will be welcomed. Young men and women who by reason of illness or physical infirmities cannot keep up with the pace in New York will be sent there. The output of the farm will not be limited to agricultural products. Mr. Arbuckle wishes to take care of more people than might be dependent upon this character of work. The building not only will be fitted up as a home, but will furnish an ideal workshop for some kind of manufacturing work as yet to be determined upon. The entire building, which is to be 210 by 65 feet, will be surrounded by a broad veranda, glass inclosed. In the summer time the inmates who are not employed in the fields will work there under conditions which will practically amount to being in the open air. In the winter the veranda will be heated.

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Messrs. P. Blakiston's Sons & Co. announce the forthcoming publication of "A Manual and Atlas of Orthopedic Surgery," by Dr. James K. Youug, Professor of Orthopedic Surgery, Philadelphia Polyclinic, etc. Inspection of advance sheets of the text and a number of the illustrations, enables us to say that this work is destined to ocoupy a very important place in medical literature, It is to be quarto in size, of about 900 pages, and will contain upwards of 800 illustrations. A definite price for the complete work has not as yet been fixed, but all advance orders will be filled so soon as the book is ready, at $10.00 for cloth binding and $12.00 for half-morocco binding.

F. A. Davis Company, of Philadelphia, have the pleasure of announcing the early publication of a work long expected and urgently demanded by the medical profession. It is a Treatise on the Motor Apparatus of the Eyes, embracing an Exposition of the Anomalies of the Ocular Adjustments and their Treatment, with the Anatomy and Physiology of the Eye Muscles and their Accessories, by Dr. George T. Stevens, of New York. The reputation of the author as one of the most original thinkers and foremost investigators in his profession, and one whose works have exerted a profound influence on the views, not only of oculists, but of practitioners in other branches of medicine, is well known.

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School of Anatomy. The New York Post-Graduate Medical School has just inaugurated a separate and distinct department, to be known as a School of Anatomy. This most important branch of medical science will henceforth be handled elaborately and with detail in all its branches. The managers of the Post Graduate School have long believed that insufficient attention is generally given to anatomy, and have awaited the psychological hour for this new departure. A separate building has been secured for the work, adjoining the established school and hospital buildings. Dr. Neil MacPhatter, the former Adjunct Professor of Surgery, has been placed in full charge. Dr. D. B. St. John Roosa, President of the New York Post-Graduate School, says: Our institution has finally achieved its long-desired object in the establishment of a separate School of Anatomy, where doctors may obtain special instruction in this branch of medical science. The School has been separately endowed, and will be given fullest facilities for the study of anatomy in any or all of its departments. Heretofore, doctors, when desiring to make a special study of anatomical subjects, have been obliged to attend under-graduate colleges, which are generally very much over-crowded. Physicians and surgeons prefer to carry on their advanced work in a post-graduate school. It is our ambition to establish in this country a school similar to the great School of Anatomy in Edinburgh.

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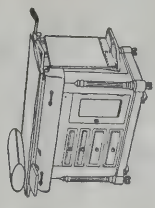

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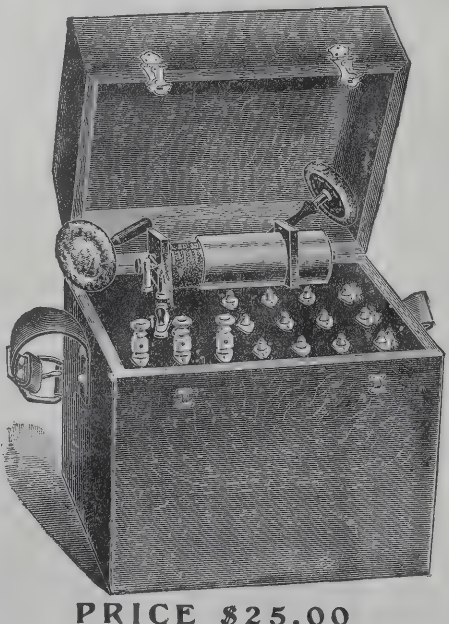

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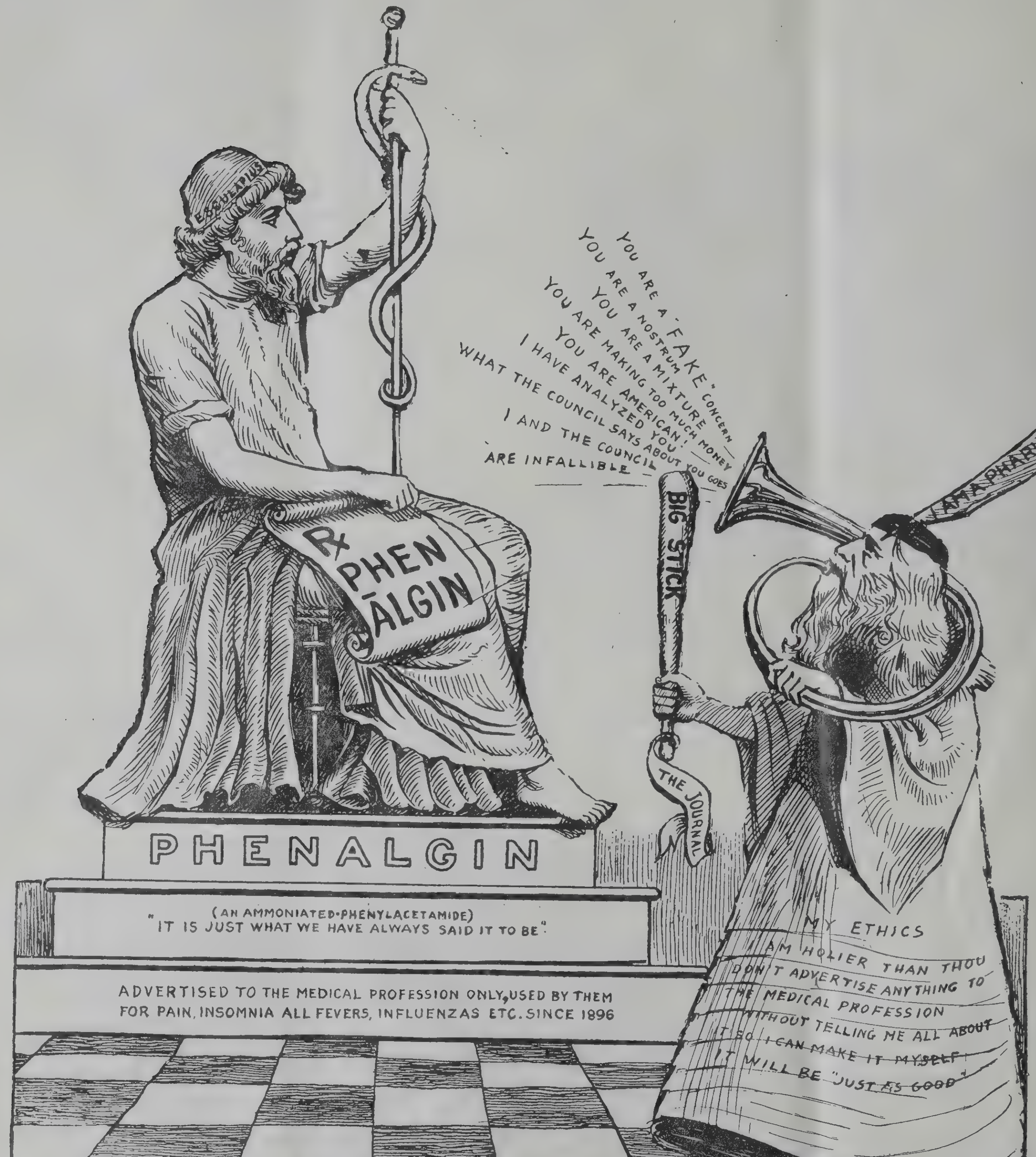
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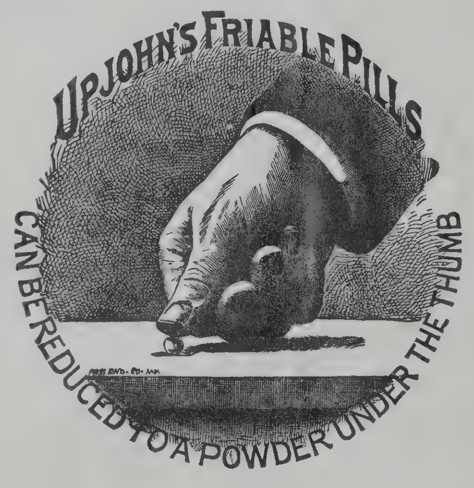
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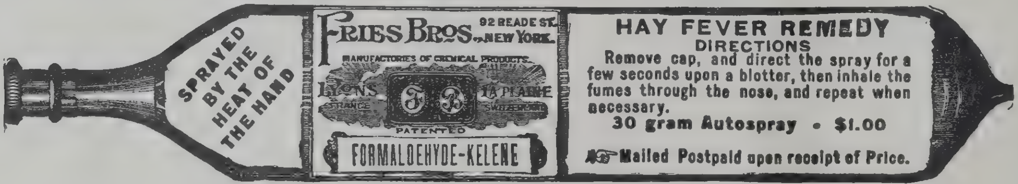
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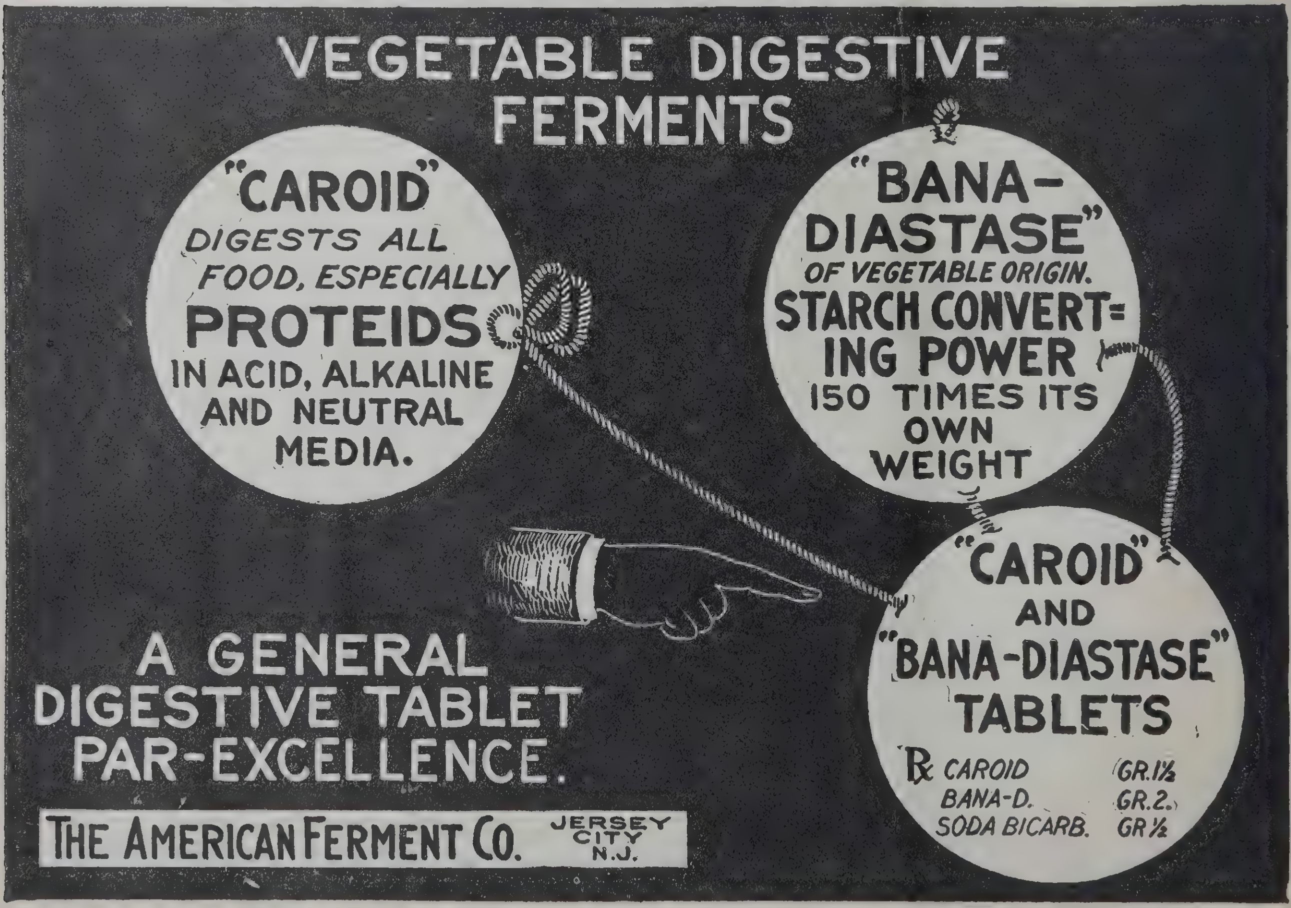

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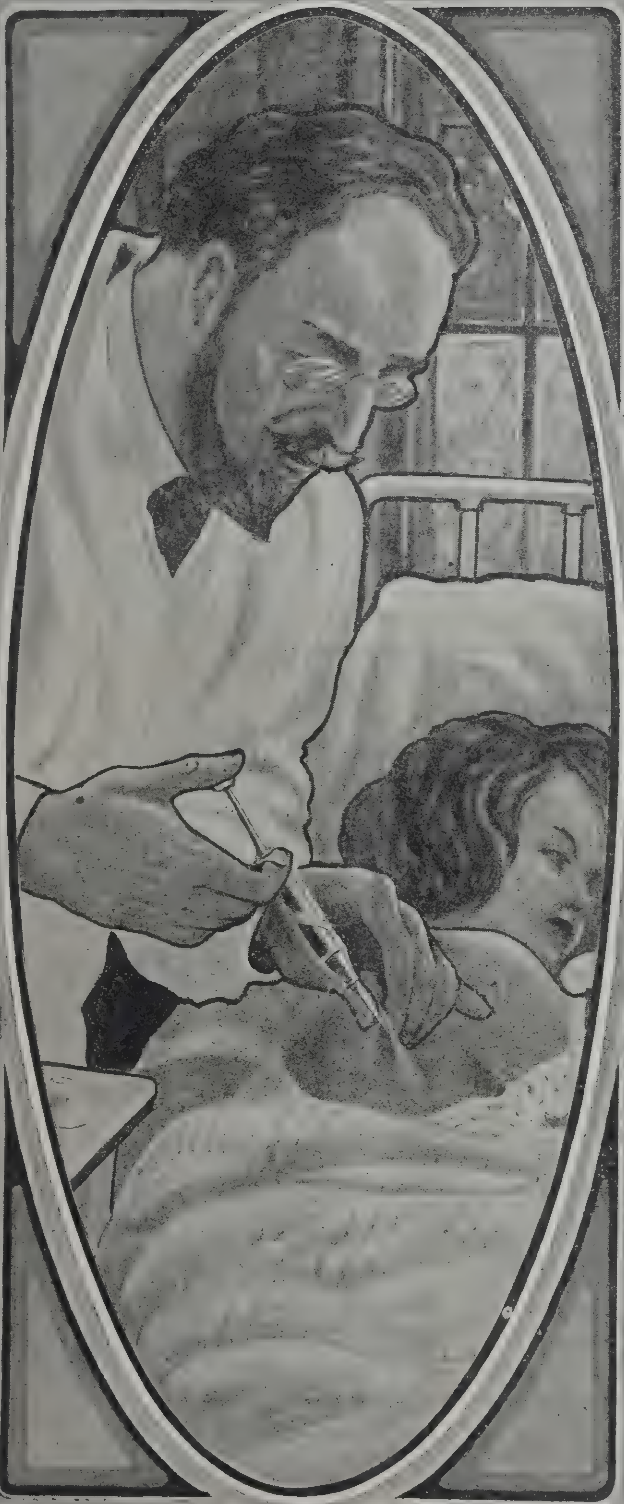

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YOU will probably ask this question more frequently than any other. To be able to relieve pain, whether it be a slight nervous headache or the most excruciating suffering from a severe neuralgia, brings the height of pleasure to both patient and attendant. The ideal remedy must not only do its work, but it must also do it quickly. Touching this point Prof. Schwarze (*Therapeutische Monatshefte*), writes upon the treatment of the forms of dysmenorrhoea associated with pathological anteflexion, retroflection in the virgin uterus, and the different forms of congenital deformity of the uterus. This class includes tenosis of the external and internal os and all forms of dysmenorrhoea in which no anatomical changes can be demonstrated. He believes the coal-tar analgesics are of use as well as the preparations of iron and sodium salicylate. Other practitioners find that it is necessary, in many cases, to administer codeine in small doses, and antikamnia and codeine tablets would seem to have been especially prepared in its proportions for just these indications. **The codeine in these tablets is especially prepared, does not induce habit, is non-constipating and is chemically pure.**

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ANTIPHLOGISTINE

a Medium can, and heat by placing the can in hot water. Do not delegate its application the first time to some one who has never seen the thing done, but personally apply the entire contents of the can to the affected joint, spreading it on the skin as thick as this ☛ ▬
about the joint and beyond the boundaries of the inflammation. Cover with a liberal amount of absorbent cotton and a suitable compress. At the expiration of 24 hours, or when the dressing can be peeled off nicely, remove it and apply a new one. After a few days the affection will, as a rule, be but a memory.

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gives the greatest amount of food energy with the least labor for the digestive organs. It is soothing and can be retained by the stomach of the aged when other foods cannot be tolerated. Owing to the process of manufacture the product is partially predigested and thoroughly sterilized. The rapidity with which it is absorbed gives the stomach walls a longer period of rest than can be secured through the use of ordinary nourishment as demonstrated in the sick room. It has stood the test of sixteen years with a constantly increasing demand from physicians.

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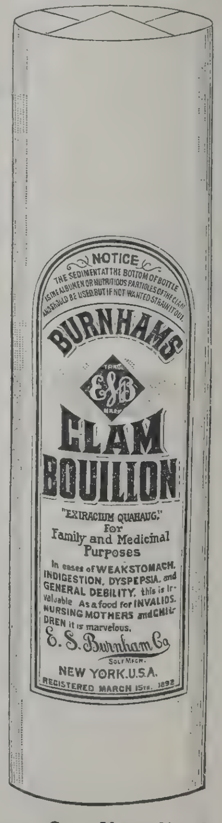
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THE SEDIMENT AT THE BOTTOM OF BOTTLE IS THE ALBUMEN OR NUTRITIOUS PARTICLES OF THE CLAM AND SHOULD BE USED BUT IF NOT WANTED STRAIN IT OUT.
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The leading men of these schools use and recommend it as the most trustworthy general application in the treatment of all obstetrical, gynecological, urethral, rectal nasal, oral pharyngeal, intestinal abnormalities as well as prickly heat and erythematous diseases of the skin.

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offers an ideal tissue-building and stimulant food which places the least strain upon digestion. The fact that **BURNHAM'S CLAM BOUILLON** is sterilized and is partly predigested makes it especially fit for use in typhoid fever convalescence. The results are: grateful patients and rapid strides towards the restoration of vigor and health, without any fear of a relapse due to a dietetic error.

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Uric Acid Troubles and Inflammation of the Bladder	Roberts Bartholow, Jas. K. Crook, Hunter McGuire, John T. Metcalf, Frank Woodbury, Alex. B. Mott, Chas. B. Nancrede, Nathan S. Davis, Jr., Jas. L. Cabell, P. B. Barringer, A. F. A. King, T. Griswold Comstock, Jos. Holt and Giuseppe Lapponi.

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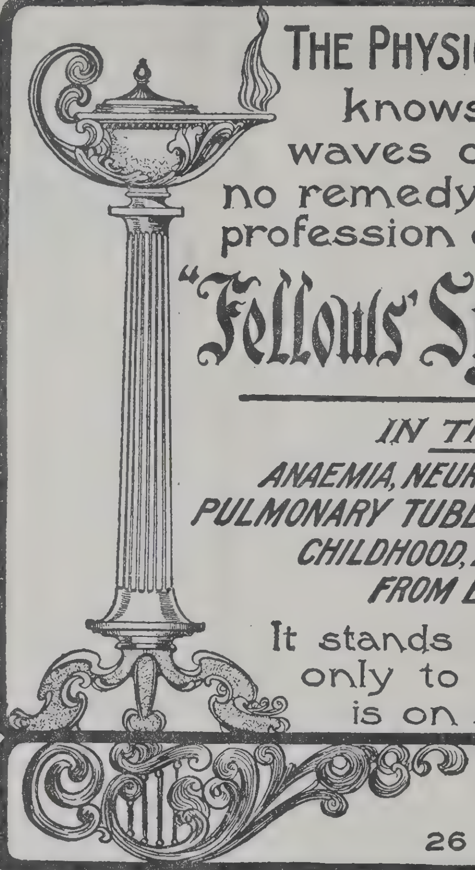

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SELECTIONS

In exercising a varicocele under local anesthesia, tie the upper ligature first; the pain of tying the lower ligature will then be abolished.

Medical students and physicians who want to brush up in chemistry, pharmacy, etc., should take the PRACTICAL DRUGGIST INSTITUTE Correspondence Course. It is the best and most successful thing of its kind and will enable any physician or medical student to pass the Pharmacy Board and become a qualified druggist. Sample lectures and full particulars free on application to PRACTICAL DRUGGIST INSTITUTE, 108 109 Fulton St., New York.

Cerevisine with Peroxide of Hydrogen in Gonorrhoea. Hydrogen peroxide attacks the molecular structure of organic matter by oxidation. This is true when cerevisine (the prepared dried spores of the yeast plant), is mixed with this peroxide, and while at first sight such a combination for therapeutic effect may seem absurd, it is found in practice, most effective in the treatment of gonorrhœa and other inflammatory affections of the generative organs caused by micro organisms. Cerevisine and hydrogen peroxide together, give off large quantities of CO_2, which is slightly anaesthetic in its effects on sensitive tissues. As a dressing for pyogenic and ulcerated conditions of the vagina and cervix, a tampon should be saturated with a mixture of cerevisine and water, of the consistency of thin cream, this should be packed around the cervix and supplemented by a tampon saturated with a diluted peroxide of hydrogen (1 to 3) which is then superimposed on the other tampon, and the vagina packed with gauze to retard the escape of as much of the foaming mixture as possible. This has been found remarkably effective in ulcerated conditions of the os and cervix, as well as in retarding the destruction of tissue and overcoming the fœtor in malignant cases.

Resinol in Pruritus

RESINOL Is the specific for all forms of pruritus. There is nothing that produces such immediate cessation from its pain, burning, and intolerable itching. Resinol Soap possesses the healing qualities of the Ointment, and is invaluable for cleansing affected parts.

I tried your Resinol Ointment on myself. I had suffered from pruritus ani, or marginal eczema, for 25 years, and had tried many remedies without any relief, until Resinol proved soothing and stopped the itching instantly.
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Resinol Ointment is the first local application I have found, that has given lasting and gratifying results in the treatment of pruritus vulvae. DR. GRACE WINTERSTEEN, Harrisburg, Pa.

I have used Resinol Ointment in my practice ever since it cured me of a severe case of pruritus of 15 years standing.
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I have been prescribing Resinol Ointment for quite a while with very happy results, and find it excellent in all forms of skin diseases, also in many troubles of the vagina and rectum. Especially is it appreciated by the physician and patient in pruritus. W. E. REYNOLDS, M.D., Hopkinsville, Ky.

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SELECTIONS

In dealing with infections or injuries of the fingers amputation should be a *dernier resort.* This is especially the case with a thumb, the most important of all the fingers.

To Remove Pain and Induce Sleep with no constipating, habit-forming, or other objectionable result, prescribe two tablets Sal Codeia Bell, dissolved in hot water and repeat as necessary. The pain and nervousness will go, and quiet sleep will come. These are facts which one trial of Sal-Codeia Bell will induce you to prove by further trials. Our Codeine under no circumstances checks any secretions or induces a drug habit. Sal-Codeia is stocked by all druggists.

Conservatism of Mariani. The Mariani products introduced on purely ethical lines, as an adjunct to other remedial measures, have been continued under such conservative policy that this very unobtrusiveness—in minding one's own business—has suggested to certain commonplace minds that there must be evil in so much goodness. From such as these, intentionally malicious or pre-judging through prejudice, long-suffering and oft'-maligned Coca becomes a victim. For more centuries than the history of man can trace, Coca has been the necessary daily ration of the Andean Indians. It is to them a sustenance against hunger and thirst, a supporter of respiration in the rarefied air of high altitudes, a muscular tonic for heart and limb in the most trying labor, and withal their sole reliance in the maintenance of health, even of life itself, midst these combined trials. During all these years no authentic case of Coca addiction has been known. For nearly half a century Vin Mariani—a preparation of true Coca with nutrient Bordeaux wine—has been employed by the medical profession as a reliable support in convalescence or wasting disease. Like the parent leaf, no harm, and nothing but good, has ever come from its use.—Coca Leaf, January, 1904.

The painfulness of withdrawing packings that have dried in a wound may be avoided by soaking them with peroxide of hydrogen.

The great value of Ficker's diagnosticum for the diagnosis of typhoid fever in hospitals without bacteriological laboratories, is again emphasized by L. Czernicky. He lays down the following rules: (1) If the Ficker test is positive, typhoid is surely present. (2) If the Ficker test is negative, the affection may be closely allied to typhoid (paratyphoid, meat poisoning). (3) In very severe as well as in very mild cases, the reaction may occur somewhat later. (4) It follows that in undoubted cases of typhoid, the reaction must be repeated later if negative at first. Sometimes it is only positive during the stage of convalescence. The best way to obtain serum for the test is to remove a few cubic centimeters of blood from a vein at the bend of the elbow by means of a sterile Luer syringe.

Healing Qualities of Egg Membrane. Doctor Amat has observed for some time the good results of placing these membranes upon the surface of wounds, and reports two new cases, that of a young girl suffering from a burn on her foot, and a man, 40 years old, with a large ulcer on his leg. Both wounds were in process of healing and were covered with healthy granulations. The surgeon overspread them with six or eight pieces of the membrane of eggs, which was covered with tin foil and fastened with dry antiseptic bandages. After four days the bandages and tinfoil were removed, and it was shown that the membrane of the egg had partly grown into the tissues and had caused the growing of a good skin. That the egg membrane had contributed much to the healing process was demonstrated in the further course of treatment. It seems, however, that the membrane does not always adhere. The process of cicatrization is not only hastened but the wound heals exceptionally well and leaves but few perceptible traces.

Hydrozone

Which yields thirty times its volume of "nascent oxygen" near to the condition of "ozone," is daily proving to physicians, in some new way, its wonderful efficacy in *stubborn cases* of ***Eczema, Psoriasis, Salt Rheum, Itch, Barber's Itch, Erysipelas, Ivy Poisoning, Ringworm, Herpes Zoster or Zona, etc. Acne, Pimples on Face*** are cleared up and the pores healed by **HYDROZONE** and **GLYCOZONE** in a way that is magical. Try this treatment; results will please you.

Full method of treatment in my book, "The Therapeutical Applications of Hydrozone and Glycozone"; Séventeenth Edition, 332 pages. Sent free to physicians on request.

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Lest Ye Forget

Permit us to remind you once more that two tablespoonfuls of *Colden's Liquid Beef Tonic*, administered ten minutes before each meal, will sharpen the appetite, increase the quality and quantity of the gastric juice, and add tone to the entire digestive tract.

For the treatment of all cases of dyspepsia due to deficient gastric juice and a decreased gastro-intestinal motilty, *Colden's Liquid Beef Tonic* will be found remarkably efficacious. Write for sample and literature. Sold by all druggists.

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Chas. Mohr, M. D., *Professor of Materia Medica Hahnemann Medical College, Philadelphia:* "In both hospital and private practice, I have found Valentine's Meat-Juice invaluable, and have been especially pleased with its nutritive and restorative value in the treatment of Post-partum Hemorrhage and Anæmia, arising from long, painful and exhausting Labor. I also place much confidence in Valentine's Meat-Juice for Nursing Mothers who are weak from excessive lactation."

Egbert Guernsey, M. D., *Visiting Physician Metropolitan Hospital, New York:* "I have used Valentine's Meat-Juice in Gynæcological and Obstetrical cases with marked satisfaction. The preparation has long been a favorate of mine in general practice."

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VALENTINE'S PREPARATION
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NUTRIO PERME
MEAT JUICE.
The result of an Original Process of Preparing Meat, and extracting its Juice, by which the elements of nutrition (most important to life) are obtained in a state ready for immediate absorption.
DIRECTIONS.—Dissolve one teaspoonful of the Preparation in two or three tablespoonfuls of cold or moderately warm water. THE USE OF HOT WATER changes the character of the preparation.

THE DUALITY OF ALL PHYSICAL PHENOMENA.

BY F. B. BRUBAKER, M.D. MIFFLINBURG, PA.

WHOEVER is interested in the closer study of plant life, cannot but have been struck with the curious appearance presented by various representatives thereof and peculiar to many localities; indeed being widespread, of which Linaria, Viola, Salvia, etc., are types, and whose distinctive feature lies in the fact that they produce two kinds of flowers, the one ordinary open, and the other minute and closed, with ofttimes and by no means, rare cases of intermediate flowers on the same stalk. The closed flowers having been named by Dr. Kuhn cleistogamic, and which are remarkable from the fact that they are always closed, so that they resemble buds; their petals being rudimentary or quite aborted; the stamens often reduced in number, with the anther of small size and containing few pollen grains which have thin, transparent coats, while the pistil is much reduced in size, with the stigma in many cases hardly at all developed. But it is almost superfluous to describe cleistogamic flowers at this late date, for even before the time of Linnaeus naturalists were wont to describe and speculate on their peculiar form, as likewise, and with no less ardor as to the immediate cause thereof. On the one hand, it being asserted that they owe their structure primarily to the arrested development of perfect flowers, because of the rudimentary petal being larger than the others, or from the vestige of a spur, as likewise on the same plant of a series of gradations between the cleistogamic and perfect flowers, while on the other hand, we have the cases of parts being especially modified so as to aid in the self-fertilization of the flowers, or as a protection to the pollen, for instance, the hook-shaped pistil in Viola, by which the stigma is brought close to the fertile anthers, or the rudimentary corolla of specularia, which is modified into a perfectly closed tympanum, as is also the sheath of monochoria, which is modified into a closed sack, and likewise the excessively thin coats of the pollen grains, while the degree to which many of the most important organs in these so-called degraded flowers have been reduced or even wholly obliterated is one of the most remarkable peculiarities confronting the naturalist of all ages, in some cases only a single anther is left and this contains but few pollen grains of diminished size; in other cases the stigma has disappeared, leaving a simple open passage into the ovarium, it being also interesting to note the complete loss of trifling parts in the structure or function of certain parts, which though of service to the perfect flowers, are of none to the cleistogamic; the collecting hairs on the pistil of Specularia, the glands on the calyx of the malpighiaceæ, the nectar secreting appendages to the lower stamens of Viola, the secretion of nectar by other parts, the emission of a sweet odor, and even the elasticity of the valves in the buried capsules of Viola Odorata.

If now we should pause to inquire as to the cause, or reason of all this, we must of necessity admit that much of a natural, visible phenomena is apparent, whereby to explain the same, for instance, it has been noticed that the flowers of Lysimachia,—Vulgaris, if fully exposed to the sun expand properly; while those growing in shady ditches have smaller corollas which open only slightly; and what is even more wonderful, that these two forms graduate into each other in intermediate stations, and Herr Bouche has shown that both temperature and the amount of light affect the size of the corolla and gives measurements showing that with some plants the corolla is diminished by the increasing cold and darkness of the changing season, whilst with others it is diminished by the increasing heat and light. It is likewise known and given as substantive evidence, that various plants belonging to this class either do not produce their cleistogamic flowers under certain conditions; or else produce them to the complete exclusion of the perfect ones. Thus some species do not produce cleistogamic flowers when growing in the lowlands or in certain districts. Again certain cleistogamic flowers are produced by some species late and by others early in the season, and this agrees with the view that the first step towards their development in due to climate. But to my mind, a plant that bears on its flower stalk cleistogamic and open flowers presents to us a duality of structure. What do I mean by this, and how will I explain it? By the duality of structure is to be understood that safeguard of nature, which to ensure the perpetuation of her animate forms, she throws about each a dual protection; first manifest as sexual, later as structural or form, and lastly as function. Let me explain:—Every one will admit that close inbreeding is directly degenerate, yet no one will deny that in a state of nature, self-fertilization held first place and was indeed necessary owing to the primitive condition of form and the uncertain geologic state which rendered pairing difficult and ofttimes impossible, and yet conjointly, no one can deny that the two sexual states or conditions present a duality of form and function coincident with life itself. Fritz Muller states that in southern Brazil there is a grass in which the sheath of the uppermost leaf, half a metre in length, envelopes the whole panicle; and this sheath never opens until the *self-fertilized seeds* are ripe; however, on the roadside some plants were cut down whilst the cleistogamic panicles were developing; and *these plants afterwards produced free or unenclosed panicles* of small size, *bearing perfect flowers.* Again in the Indian species of Viola-Nana, which were transported to England, *only* cleistogamic flowers were produced during the whole of several successive summers; and the same plant was acting similarly in Calcutta, but in its native site or habitat it was producing both closed and open flowers. Now what does this fact teach? It teaches that at an early period, when life first appeared upon the globe, and when sex was as yet undivided (for every one knows that cleistogamic flowers are self-fertile), nature ensured the perpetuation of her forms by just such means, that is, self-fertilization plus a closed or protected structure; but I shall not pause to prove this, easy as it would be, but shall immediately pass to a consideration of the Protozoa.

The Protozoa, as we all know, being the lowest form of animal life, and one-celled organisms, recognizing at the same time a parallel group of unicellular plants. Theoretically, there is no difficulty in separating these two groups. There is no doubt but that organisms present themselves to us in two great series or groups, each starting from simple unicellular forms. The one series, the plants, can take up the carbon, oxygen and nitrogen necessary to build up their growing protoplasm from mineral compounds which constitute the resting stage of those elements. Plants can take their nitrogen in the form of ammonia, or in the form of nitrates, and their carbon in the form of carbonic acid, accordingly, they require no mouths, no digestive tract or apparatus; their food being soluble in water and diffusable, they absorb at all or many points of their surface, while on the other hand, the series of organisms which we distinguish as animals cannot take the nitrogen necessary to build up their protoplasm in a lower state of combination than it presents itself in the class of compounds known as albumens, nor can they take carbon in a lower state of combination than it presents when united with hydrogen or with hydrogen or oxygen to form fat, sugar and starch. Albumens and fats are not soluble in water and diffusable, and, therefore, must be seized by the animal in the condition of more or less solid particles and by chemical processes superinduced in the living protoplasm of the animal; by the contact of these particles they are acted on, chemically modified, and rendered diffusable. Thus we see that an examination of the lowest forms of life in each kingdom resolves itself into nutrition, and the distinctive line on which this is accomplished being that of demarkation between the two. The Protozoa then, are essentially unicellular animals. The individual or person in this grade of the animal kingdom is a single cell; and although we find Protozoa which consist of aggregates of such cells and are entitled to be called multicellular, yet an examination of the details of structure of these cell aggregates and of their life history establishes the fact that the cohesion of the cells in these instances is not an essential feature of the life of such multicellular Protozoa, but a secondary and nonessential arrangement, like the budded persons forming, when coherent to one another undifferentiated colonies among the polyps and corals, the coherent cells of a compound Protozoon can be separated from one another and still live independently; their cohesion having no economic significance, each cell being the exact counterpart of its neighbor—there is no communication of life, no distribution of function among special groups of the associated cells and no corresponding differentiation of structure. As a contrast to this we find even in the simplest Enterozoa that the cells are functionally and structurally distinguishable into two groups, viz:—those which line the enteron or digestive cavity, and those which form the outer body wall, and the cells of these two layers are not interchangable, they are fundamentally different in properties and structure from one another. The individual Enterozoon is not a single cell; it is an aggregate of a higher order consisting essentially of a digestive cavity around which two layers of cells are deposited. The individual Protozoon cell is a single cell; a number of these individuals may, as the result of the process of fission, remain in contact with one another; but the compound individual which they thus originate has not a strong character. The constituent cells are still the more important individualities; they never become differentiated and grouped in distinct layers differing from one another in properties and structure; they never become subordinated to the individuality of the aggregate produced by their cohesion, hence we are justified in calling even these exceptionally aggregated Protozoon, unicellular, whose distinctive character lies in the fact that they remain so, that whether existing as isolated organisms, or as constituents of the tissues of plants or animals, they separate at once into two distinct individualities which move away from one another and are thenceforward strangers. Now on the theory of higher life as we know it to-day; being sexually distinct, how is it that these unicellular organisms live and perpetuate their kind, it having been proved that one of the fundamental properties of protoplasm is reproduction? The Protozoon cell follows the same course as tissue cells in that by assimilation of nutriment its protoplasm increases in volume and reaches a certain bulk when its cohesion fails and the viscid droplet divides into two. Now the coefficient of cohesion varies in different genera and species, but sooner or later the disrupting force leads to division and thus to multiplication of individuals or reproduction. Here then we have a physiologic unit, a living germ which absorbs within itself nutriment and which grows, and finally, which reproduces itself. And this we have called protoplasmic. But whilst simple binary division is, almost without exception, a chief method of reproduction among the Protozoa, and is also very usual, it has been found that under given circumstances or conditions, the Protozoon breaks up rapidly into many; from ten to a hundred or more little pieces, each of which leads an independent life and grows to the form and size of its parent. Then again to multiply by binary division, some of the products of which division will in their turn divide into small fragments.

These small fragments are called spores, and it has been noticed that before any distinct mass of protoplasm break up into spores, it has been preceded by the formation of a cyst. Now it matters not whether the process of simple binary division goes on for a hundred or for a thousand years, it does not progress at least in so far as man is able to discern (we speak now of the animal), but protoplasm can build higher than this, for it can build to the majestic oak, but still it is protoplasmic, but when one Protozoon cell approaches another Protozoon cell, when individuals come together and fuse into one mass before breaking up into spores, I call it the beginning of a rising duality, the former protoplasmic, and the latter nervous. But spore formation is not necessarily preceded by conjugation, neither is conjugation always followed by spore formation. Among the mycetozoa, the young individuals produced from spores, conjugate at a very early period of growth in numbers and form plasmodia, and after a considerable interval of feeding and growth the formation of spores takes place. But still more remarkable is the fact observed among the ciliata, where two individuals conjugate and after a brief fusion and mixture of their respective protoplasm separate, neither individual (at least, as far as certain genera are concerned) breaking up into spores but simply resuming the process of growth and recurrent binary division with increased vigor, and this again bears truthfully upon our argument; that even protoplasm itself presents to us a beginning duality of structure and function; for there certainly is no marked line to be drawn between protoplasmic reproduction by simple fission and reproduction by spore formation; both being a more or less complete dividing of the present protoplasm into separate masses.

It is then apparent that we are here face to face with a great underlying principle, viz.:—That protoplasm shows in its very nature a dual structure, for while on the one hand, by conjugation of simple cells are produced by simple fission, or by spore formation; cells, which in their entirety build to higher plant life, or whether on the other, as in the beginning animal tree they build to perfection here it matters not, seeing that to the one is added locomotion and the other higher property, entailing the birth of a nervous system which ultimately governs, and if on the side of protoplasm we believe that simple fission governs the one tree, or spore formation the other; we must pause before the greater problem that each may determine to the exclusion of the other in this beginning life, its start; that each may suffice, that either may govern, we must, in our humility admit; that nature has here set forth a duality to subserve and be not lost, and that follows her forever.

The distinctive feature then of a Protozoon cell being that it is a simple mass of protoplasm which is endowed with motion, respires and excretes, is capable of chemical metamorphosis, grows and reproduces its kind and presents as an underlying principle the nucleus of a beginning duality, that is, capable of resolving itself into two structures, two functions, etc., of which it gives evidence; but never actually reaches, for within itself the Protozoon cell is devoid of the slightest vistage of a nervous system; and what one cell does, all do, there being no specialty of structure, no division of labor and consequently, to all visible tests, no tangible individuality, save one, viz.:—that of sex; for whilst in the binary cell division of the Protozoa, the two products are usually complete in structure at the period of separation, spores and spore-buds are not only of small size, and therefore, subject to growth before attaining the likeness of the parent, but they are also very often of simple and incomplete structure, the gap in this respect, between the young spore and its parent necessarily varies, according to the complexity of the parental form. It having been noted then, that the two protoplasmic individuals come together, conjugate, and separate, it would be but natural to suppose that resulting therefrom, and proceeding a step higher in the animal scale we should find manifest the evidence of the same, and as we know for the entire organic world, no two individuals being exactly alike and believing the same to be necessarily true of the Protozoa, no surprise need be expressed anticipating and ultimately finding that no two cells can conjugate without the offspring partaking of the character of both. This then becomes manifest as we approach the next step in the scale, a slightly more complex individual; as the hydra or fresh water polyp. The polyp is, in fact, a group or crowd of amœba-like cells, so associated together that not only may the material of each cell, within limits, be interchanged with that of neighboring cells, but also the dynamic events taking place in one cell and leading to exhibitions of energy, may be similarly communicated to neighboring cells also within limits. Now these cells are arranged in a particular way to form the walls of a tube, of which the body of the hydra practically consists, forming two layers in apposition, the one an internal layer and called the endoderm, and which lines the tube, the other an external layer, and called the ectoderm, and forming the outside of the tube, and putting aside minor details of unimportance, the difference in structure and function observable in the organism are confined to differences between the ectoderm on the one hand, all the constituent cells of which are practically alike, and the endoderm on the other, all the cells of which are also alike. Now the protoplasm which goes to form outer or ectodermic layer of cells exhibit in a marked degree the phenomena of irritability and contractility, whereas in the protoplasm of the inner or endodermic cells, this is held largely in abeyance, and prominence is given to that property likewise belonging to protoplasm, viz.:—assimilation; and thus it is seen that while protoplasm is capable of various phenomena, as we saw in the Protozoa, yet, as we go a step higher, the relative position of the same determines the preponderance of action, for if a hydra is turned inside out, a reversion of the functions here stated takes place. Now it needs but little argument to convince the most skeptical that the one great function to which all organic organization tends, is nutrition, all else being subservient thereto and accessory, that whether we behold the hydra on the one side in which one-half of the animal's body is given over to the nutrition of itself and the remaining half; or whether on the other we behold man, the highest type, nutrition still holds first place, and it is here that I would draw the reader's attention prominently to the second step in the duality of all physical phenomena, viz.:—a double structure, an inner, assimilative, and an outer, governing, the one protoplasmic, the other nervous. In the hydra each endoderm cell receives some of the food bodily into itself; there to elaborate it into prepared nutritive material. This, as we have seen in the Protozoa, is one of the fundamental properties of protoplasm and in unicellular organisms subserves its every need; a step higher, and we find this same fact or process at work, plus a surplus preparation which oozes out to the ectodermic cells, the replenishment of whose cells or protoplasm is thereby effected with a saving of labor. This transfer of nutritive material from the endodermic to the ectodermic cells being by a process of absorption or osmosis. Now each of these systems, that is, the component cells taken together, constitutes what is known as a tissue. The ectoderm cells together constituting a tissue whose function in the modern sense of the term is movement and feeling. While the endoderm cells constitute a second whose function is assimilation, and the phenomena of the whole constitute a result from the concurrent working of these two functions, which is life itself. The movements of the hydra are brought about by changes of form of the ectoderm cells; especially the tail-like processes of these cells, which arranged as a longitudinal wrapping of the tubular body draw it together when they shorten, and lengthen it out when they elongate, and it is by the alternate lengthening and shortening of its body and of the several parts of its body that the hydra changes its form and moves from place to place. Now, inaugurating these changes of form by the products of contractility, are the more hidden changes of irritability; these also belonging to the ectoderm cells and giving us a first view of primitive promise of a beginning nervous system, this function of irritability traveling readily from cell to cell, so that a disturbance originating in one cell either from some extrinsic cause, such as contact with a foreign body, or from intrinsic events, may sweep from cell to cell over the surface of the whole body; but the endoderm cells have not wholly lost the same property, though far less striking, for these cells are almost wholly taken up in the chemical work of digesting and assimiliating the food received into the cavity, the lining of which they form. But higher in the scale of organic life these same cells lose this property entirely, and henceforward and from the hydra step by step higher, these two systems become more and more distinct farther and farther apart, a duality of structure and function. We have found that one of the fundamental properties of protoplasm is assimilation, that the Protozoa accomplishes in diminutive what is accomplished by the highest type of animal; and no more is accomplished the one from the other, but by the grouping of cells to form tissue, and as tissue in itself becomes a physiologic laborer, that is, that the ectodermic cells are no longer taking part in the primary function of assimilation or the preparation of food, but yet requiring nourishment no less than the cells actively engaged therein, therefore, it becomes apparent that, by reason of the process of absorption cell from cell, which in the ultimate amounts to osmosis is an everywhere present necessity for the preservation of the life of the organism and its continuous growth. Now, as we go higher in the animal scale, we find that the preparation of food becomes a far more complicated question, the endodermic sheet of the alimentary canal eventually becoming folded and arranged into organs called glands, with the mechanical advantage that a large amount of surface is secured within a small bulk; and the constituent endodermic cells of these glands pour out, or secrete, divers fluids into the cavity of the canal, so that much preliminary preparation of digestion of the food takes place before the food really enters the body, a type of complex structure being here presented and others, as the liver, pancreas, etc., being developed, the higher we go, all being connected, and together subserving the great end of food preparation and absorption, it becomes very obvious that the primitive process of absorption of cell from cell, by a process of osmosis, no longer subserves a nutritive end; and so the wide separation in space of the masses of differentiated cells constituting tissues necessitates the introduction of mechanical contrivances for the carriage of material from place to place. Now as we have seen in the simple hydra the nutritive material can permeate the whole body by simply oozing from cell to cell, but in the higher animal a hydraulic system for the distribution of nutritive material is introduced; the evolution of which becomes a most interesting study, fluid being distributed in ceaseless flow all over the body by a mechanical arrangement consisting of a pump with branching tubes, worked on mechanical principles, and capable of being imitated artificially, save that the power that drives the machine is the energy set free by living muscle. Now as this circulating fluid or blood rushes past the endoderm cells which have gorged themselves with the rich contents of the alimentary canal, it receives from them some of the material which they have absorbed and elaborated and carries this nutritive supply to all parts of the body; similarly it carries away those broken fragments of simpler stuffs into which the complex protoplasm, wherever it eixsts, is forever splitting up and bears them back to differentiated endoderm and other cells, whose work becomes, so to speak, inverted, since their activity is directed to casting things out of the body, instead of receiving things into it, and lastly by a special arrangement, by a peculiar property of those corpuscles which make blood red, this circulating material at one and the same time carries to each corner of the body not only the nutritive material required for building up protoplasm, but also the oxygen by which the constructed protoplasm may suffer oxidation, and in being oxidized set free that energy, the manifestation of which, is the token of life. Insofar then is the animal body protoplasmic, as indeed, is the whole series of that other and no less noble structure, the vegetable, but the vegetable never rises above this; from the lowest unicellular plants, even to the oak, it is undeniably protoplasmic, and nourished, as it were, by a similar system of nutritive fluid, whose heart power finds its counterpart in root pressure and whose fibro-vascular bundles and osmic capacity is everywhere tending to a like end. But for the animal it is different, for conjointly with a visible protoplasmic entity and running parallel with the same and born from out the system of ectoplastic cells comes the nervous, which in the animal of higher life becomes the higher, because it governs—for who will deny that the thing governing is not in all cases higher than the thing governed?—but we will not on this occasion lend ourselves to that strange Spencerian doctrine which says: that contractility and irritability is the germ nucleus of nerves, a definition which savors too strongly of spontaneous generation, for while the foregoing may serve, and no doubt do, the awakening or determining factors in the evolution of nervous tissue or fibre, but that they are the cause of the nerve itself being born, we seriously doubt, it is not necessary, neither do we believe that protoplasm admits of so fine discrimination as visible or tangible phenomena, else why should nerve force elude our most searching inquiry? Suffice it to say that from without the ectoderm is born the nerve. The same being outer, but sinking deeper with each acquisition of structure and force and subserving the great quality of protection. In the Protozoa we find no nerves. But the Scyphomedusoid forms of the hydrozoa show nerve fibres and ganglion cells in the subumbrella and around the tentacculo cysts, while in the Hydromedusoid forms the nerve ganglion cells form a ring around the margin of the disk. In the simplest forms of animals the protoplasmic cell is the seat of sensation and of motion; but as the contractile or muscular layers become more marked sensation is delegated to the cells of the ectoderm or outer layer of the body. Now as portions of the sensory layer become of higher value to the organism their protection is accomplished by some of the sensory cells sinking into the body of the organism, so as to be covered by less important structures, the portions originally of the surface thus differentiated and protected, become ganglia, and processes pass from them on the one hand to cells at the periphery, so that they still may be influenced by external energies, and on the other, to the contractile parts of the organism, by which movement is accomplished; still higher in the scale of life the ganglia is connected by internucial fibres, and the plan of the primitive nervous system bears a relation to the general type of structure of the animal. Thus in radiate animals the gangliated cords show a radiated arrangement and when the animal form is bilateral and symmetrical, the nervous arrangements are on the same type, the ganglia specially connected with the rudimentary organs of sense attain a size and importance proportionate to the development of the sense organs, and the nerves of the sense organs are chiefly connected with the supraœsophageal ganglia, showing that not only here is to be found the primitive promise of future brain, but likewise, and what concerns us most in the present instance, being that nerve evolution was first nutritional, or rather evolved to subserve this all-important end, by such means as best suited the animal under consideration, and which finds its highest type in the vascular control of the nutritive stream in man (the blood), by means of the greatest of all systems, viz.:—the vaso-motor. Now when the body of the animal becomes more complicated by the development of similar segments, we find a reduplication (we are now, of course, speaking of invertebrates) of the supraœsophageal ganglion, and a ventral chain of ganglia is formed, a pair for each segment, the individual ganglion connected by commissures. Such an arrangement being found in the ringed worms and the arthropods. The next step being a fusion of the ganglia into masses, according to the size and importance of the part of the body to be innervated.

Passing from this rather hasty review of the gangliated system of invertebrates to man, we find little at variance in the primitive structure here described, and the highest type to which organic evolution has given birth. No more interesting study is to be found than a perusal of the graded, and at all times, rhythmic steps intervening between the two, but we are not here given to comparison, save as it reveals the great problem of duality, and yet remembering that from the organic architectual simple, to the organic architectual complex, represents all there is of visible organic phenomena, the distinctive mark of vertebrates being the cerebro-spinal axis with, or in contradistinction to the ganglionic of invertebrates, renders consideration of the embryological and morphological aspect of the subject imperative; representing as it does the history, or story of all higher life to be seen in simple and complex form. The cerebro-spinal axis begins in the embryo as a tube of nervous matter produced by an infolding of the epiblast or outermost embryonic layer, the tube widens at its anterior end and by constrictions in its wall, three primary vesicles are formed, which afterwards become the anterior, middle and posterior parts of the brain. In the fully developed condition the cavity of the tube remains as the central canal of the spinal cord, and the ventricles of the brain and cord, whilst the various parts of the brain and cord are formed by thickenings in its walls. A protrusion from the anterior cerebral vesicle, at first sight single, but afterwards divided by a median cleft and becomes the rudiment of the cerebral hemispheres, the cavity remaining in the adult condition as the lateral ventricle on each side. From each cerebral vesicle another hollow process protrudes which constitutes the olfactory lobe and thus by thickening, etc., from the outer and under walls is gradually formed all that becomes the adult human brain. Indeed the evolution throughout the animal kingdom shows a graduated series of increasing complication proceeding out of the same fundamental type, so that the forms of brain found permanently in fishes, amphibians, reptiles, birds, and the lower mammals are but repetitions of the stages of the embryonic development of the brain of man. If, from organic life on the globe, and following it at all points, from the lowest to the highest, there has been born and nurtured a great and as yet little undersood duality, the one protoplasmic, and the other nervous, then surely, in so high a structure as man, must be evident the dual forces evolved and undoubtedly playing and subserving their highest end, and if they be not demonstrable, if they be not everywhere present, in this, the highest structure to which organic evolution has given birth, then are our deductions vain. Nutrition, being the graded steps from water laden with inorganic compounds in the vegetable, to water laden with organic compounds in man, and nutrition being life, it follows as a self-evident corollary that whatsoever governs nutrition, whatsoever controls the same must be higher even than nutrition itself; and this the nervous system accomplishes, accomplishes by its control of vascularity and by way of the vaso-motor nerves.

Now, if, as we have assumed, and evolved from out the lowest forms of life is born a structure which eventually becomes dual, if, as we find it in higher animal life, with man as a type of structure, a duality of form and function is manifest, one of which we have called protoplasmic, and the other nervous, and if within the body of man there continually play two forces—the one structural and the other functional, and resulting from a protoplasmic force and the other from a nervous force, then should these two forces fail to show forth visible and tangible phenomena, would our system fail. But first of all, I would draw the reader's attention to the fact that all action, all force, is attended with the evolution of heat; I care not whether it be inorganic, as the fall of one stone upon another, or whether it be organic, as in man (with metabolism as a type), all motion, all chemical change, all force or forces, are attended with the evolution of heat, save one, and that is nervous, and had I no other argument with which to present my deductions, it seems to me sufficient that this one fact, this one phenomena, and its everywhere presence, must suffice. When one body strikes another, a certain heat equivalent is overcome and manifest, as in the circulation of the blood which eventually resolves itself into just so much heat; and the heat produced is always the exact measure of the force expended in overcoming the friction or resistance offered. The heat being simply a primitive force in another form. So with percussion, so with compression and especially combustion. Even growth itself having a certain heat equivalent, and I would repeat that all action, all force, be it organic or inorganic, save one, viz.:—nervous, is attended by the evolution of heat. Heat, then, being the legitimate or necessary outcome of all those forces within the body and commonly known as metabolism, the same being the sum total of all protoplasmic life and which reaches its highest evolutionary state or condition in man and the higher animals, and all finer tests and experiments having positively failed to demonstrate or detect the same in any form of nervous action, it becomes at once apparent that the function of nerves, is, and necessarily must be, a thing in itself, separate and distinct from protoplasmic force which evolves heat, and to which the nutritional stream (the blood) belongs. And this we find evidenced in the so-called nutritional or Wallerian theory, which demonstrates that in nerve section, degeneration follows the course of the nerve current. Hence, if a sensory nerve is cut degeneration will start at the point of section and travel towards the spine, while if a motor nerve be severed the degeneration will extend from the point of section to the periphery. But that the nutrition of the nerve is a thing separate and apart from this is positively proven in the fact that in the same division if repair is about to take place, as in cases where nerve suture has been practiced, and even where nerves have been resected for the cure of pain or what not, growth takes place from both ends, regardless of its being sensory or motor; and where growth is there is nutrition, for growth without nutrition is an impossibility. Furthermore, where it becomes a necessity to introduce nervous tissue, be it human or of higher animal origin, to preserve the continuity of nerves, it matters not whether the supply be of sensory, motor, or mixed character, the end attained (if attained at all) is always the same, viz.:—That of a restoration of function of the nerve repaired. And thus it becomes apparent that while as in all other tissue, nerves are dependent for their protoplasmic repair upon the blood, yet the force generated and passing continuously or interruptedly to and fro, is a thing in itself separate and distinct. Therefore, within the body of man we behold two forces. AND the one we have called protoplasmic, and the other we have called nervous. And of these two the nervous is higher, because it controls.

The surgical treatment of Tubercular Cervical Lymph Nodes is well summarized by Dowd (*Annals of Surgery,* July, 1905). These lesions are apparently due to infection received from the fauces, pharynx or nasal mucous membrane in the great majority of cases. The disease tends to extend by means of the lymph channels to the lungs and other internal organs. Such an extension occurs in perhaps one-half of the cases in which the nodes are not removed. Apart from the tendency to extension the disease is tedious, causing discomfort and disability, and having disfiguring scars. Thorough exsection of the diseased nodes has given better results than any other method of treatment. Operation records justify the conclusion that in favorable cases the operation is safe, leaves behind no unsightly scars, confines the patient to bed only two or three days, while a dressing or bandage is required from but one to three weeks, there is no recurrence in three-fourths of the cases and ultimate recovery in 90 per cent., while in the less favorable cases the operation is safe, there is less disfigurement from scars than accompanies discharging sinuses with freedom from recurrence in about 55 per cent. of cases and ultimate cure in 75 per cent. Transverse incision either in the neck creases, or parallel to them are recommended—care being taken to cut the fibres of the facial nerve. A vertical incision back of the hair line is sometimes indicated. Extensive incisions are necessary in advanced cases. The normal structures of the neck should be preserved. We should here note the wonderful improvement and frequent cures which are reported from seaside hospitals for tuberculous children, the need of operation being in many cases obviated.

"RACE SUICIDE."

BY GEORGE B. H. SWAYZE, M.D., PHILADELPHIA, PA.

"TO be or not to be?—that's the question," more lately revived for thought of American people. President Roosevelt has put himself on popular record among many actual mothers by his oft-quoted apothegm: "The most important, the most honorable and desirable task which can be set any woman is to be a good and wise mother." Allow me to here complete the synthesis of his notable premise:—is to be a good and wise mother of good and wise children. Both in the family and the Commonwealth sense, it is remorsefully unfortunate to be the mother of an imbecile fool, a perverse reprobate, or a chronic criminal. There are excessive human outputs into communities—and the ratio is markedly increasing in these overstrenuous money-lifting days—of men and women who tarnish the record of life, who disparage the world and the paternity that gave them existence.

Motherhood is entitled to the premium and the dividends of maternal compensations. Motherhood means and should mean a tremendous deal more than the quality of being "good and wise" mothers. The physiological and mental output of children is immensely more important than is the numerical multiplicity of family progeny. To be the good mother of a talented and capable and healthy child, who is morally well-balanced, who will fill some sphere of usefulness in the world and do honor to his or her birth,—to be such a mother is to fill the grandest mission permitted to womanhood. She has of her own flesh and blood contributed to the world's stupendous progress and to the spiritual Kingdom of God. She is blessed of the earth, for her womb nurtured and delivered to the world a messenger of noble thoughts and useful deeds.

But perhaps the saddest experience on earth is that of a good and worthy mother who brings into the world a child of idiotic mind, of degenerate morals, of imbecile status, incapable of normal development. In my mind's eye just now are mirrored three living cases of that grade. One a talented minister's wife, mother of an epileptic idiotic son now fifteen years of age, whose earthly advance has grown more troublous and doubtful with each succeeding year, and whose care and supervision have long since overcome the bounds of the home love and safety. The next case is that of an unusually brilliant, kind-hearted, energetic mother, whose only child, a son, with arrested mental development, now twenty-one years of age, with an intellection corresponding to that of a child of six years old, though under the care and training of one of the best institutions in this country. The third good mother—a very sensitive and intelligent wife of a physician. The son reached his majority ten years ago, but is yet the shuffling imbecile pervert that so many years of parental anxiety and attention have failed to palliate and redeem. These few instances are cited only as illustrative of how the unhappy burden of maternal travail can beset even the good mother and redouble itself every waking hour, night and day, of her undesirable and most regrettable task in life. Better that such women had never become mothers at all, for, as already predicated above, motherhood merits the premium and the dividends of maternal compensations for the sacred function of sharing in the creative impetus of God in populating the earth. But so far as concerns benefit to the world, every American woman, though ever so good a mother, who brings into the world progeny with degenerate or abnormal rationality has inadvertently, and, in general, undeservedly failed in desire and honor, and accomplished worse than to contribute a personal share toward race suicide by the bearing of such children.

The ambition-mad Napoleon Bonaparte craved the women of France to bear children—that he might have recruits for his invading armies, that he might lead brave hearts to repulse resisting foes, that he might victoriously sacrifice human lives to pillage cities and demolish thrones, and to rear for himself and his quite impossible royal heir a deathless empire of tyranny over Europe. In this gigantic ambition Napoleon would have spurned every mother's offering of a son who would prove useless drift on the march of national destiny. It is not the number of children that are needed to dignify and make invincible a people, but the grade of vigor, the brand of intellectuality, the sterling morale of manhood and womanhood.

The comparative infertility of modern American women, as rated by the prolific old-fashioned output of children two or three generations agone, is arousing increased attention of social doctrinaires on printed page and on forensic platform. The arguments or inductions advanced, even by medical writers and talkers, are materially veiled with the mufflers of conjectural impediments of barrenness as effecting the reduction in the modern woman's fertility, as cause of the very observable decline in human reproduction, and threatening family extinction among the better educated and more intelligent classes of our population. Each debater naturally disposes himself or herself to recognize the blight of the race in the light or the shadow of some studied hobby, the influences of which tend to restrict sexual fruitfulness and reduce the availability of woman for the functions of successful maternity. The ethics of the audience, of the time and place, or of the occasion of verbal deliverance, judicially gauges the suggestive ventures of coysome opinion, and the veiled facts are as scrupulously coquetted with around the brushwood of plain truth as it is possible for mistaken or misleading courtesy to masquerade. The chronic higglers about indiscretions of American diet, with thought objectively trained on the superior virtues of plainer foods, simpler habits of life, normal digestion and sexual virility of our forefather and foremother generations are wont to allege that incompatible cuisine compounds have induced dyspeptic temperament and hyperbolic nerves which rob woman of normal desire, and constitutionally disqualify her for the fruitful welcome of maternity. Then airily come the distinguished lady conventionists of dress reforms. Learnedly they dilate on the demerits of Parisian fashion plates, on the social and physical degeneration of womankind, and the increase of sexual barrenness, because of the heart-cramping and bosom-flattening corset habit; the waist constriction and pelvic impact of strangling skirt-bands; the spine wrenching and womb tilting results of fashionably high-heeled shoes; and altogether demonstrate how American womanhood is withering at the roots, is succumbing to the confirmed infliction of daily ills, is postulating toward irrepairable invalidism, is slowly but assuredly divesting herself of the Cestus of sexual functions and honored motherhood. Then there comes along the Gospel wagon of moral reformers, zealously trumpeting wisdom's warning against the vagrancy of intersocial vices, against promiscuous catering to the debaucheries of sacred and ideal human passions, and dispersing the natural incentives to holy union of the sexes in the mutual bonds of legal marriage,—and thus repress due appreciation for the family circles of homes to inhabit the land and to recruit the normal stamina of the Nation.

Having thus sketchily skirted the variegated campus of this parental enigma of native Americanism,—grounds coyly ventured on by reform specialists,—we must directly approach the desecrated temple of this portentous problem of human life. The revolting causes of race suicide are not dyspeptic minds and nerves, are not cuisine distractions of functions, are not deforming wrench of smothering corsets and tilting shoe heels—unsanitary and vicious as are their physical effects on the human frame and vitality—they are not the radical blight causing sexual barrenness of womanhood. The cause of race elimination among the educated better class of American families is the growing disinclination to the production of children, the malevolent brigandage against the existence of children, the despotic assaults upon the rights of children to be and to live and to monopolize a share of human interest and worldly profits. What are the proofs that boldly gaze one out of countenance and pillage faith of the sanctity of life's precious souvenirs to life?

In passing, we note an imposing concourse of women, mostly young women, drifting into the sphere of self-dependence on lines of business vocations, which enthral the thought and replenish the purse:—this instead of seeking or accepting the equivocal tasks of prolific marriage. Children they may heartily appreciate, but prefer the entertaining alternative of lavishing an hour's enjoyment on another's child rather than to gather into parental arms, taxatively, one of their own production for relentless keep and responsibility. The revolutional women's rights movement, waged fifty years ago, and that vociferously claimed for women equal privileges with man in all remunerative occupations, and release from the servile sphere of wifehood on man's demands, set high sail for this form of abbreviated motherhood. In business relations, child-bearing, helpless infancy, and dependent childhood of offspring, would prove a material interference with the need of essential liberty, an incumbrance on the hours required by business employment,—hence the voluntary curtailment of the race thereby without question or compunction as contributive to race suicide.

Looking closer, we behold the conditional interdiction of children in hotel life, in boarding-house life, in room rental life, in all domestic situations, where man and woman, transient or permanent, are out of joint with ownership of their homes, either as tenants or as proprietors. Then what? The sexual relations by the couples cohabiting under these housing conditions must, compulsorily, be rendered infertile, or a request be accepted to move on elsewhere—but to where? The exigencies of human experience do not enable every woman who might be a mother to be mistress of a home of her own;—what time has she, or what inclination to personally withstand the quite inexorable drift toward race suicide by habitual resort to the "preventive obstacle" to inconvenient pregnancy?

From this anarchy of enforced infertility, we glance otherwise for more human charitableness to cover the defences of unborn sons and daughters in harmony with the command: "be fruitful, and multiply, and replenish the earth" with progeny. Here we are confronted face to face with impeachments by religious bigots, by the social Pharisee censors, who scrupulously consign to implacable dishonor and disgrace for all time the warm-natured girl or woman, who, outside of legalized marriage relations, has yielded at a decisive moment to the craving of love or to the female passion of developed sex, and a love-child or passion-endowed pregnancy has intervened for maternal recognition and protection. Doomed, however, to the black repulse of censorious frown and scandal, unable to bear the crush of imputed dishonor, the expectant mother murderously destroys the product of the womb, or despairingly blots out the life of herself and of the unborn by the double suicide, that at one stroke robs society and the State frequently of what may have proved a more talented son or brighter daughter than does the often duller child of wearied wedlock. As the exceptional and more pitiable class, these sensitive and sadly-undefended victims to premature death are driven to race suicide because of the inexorableness of self-righteous judgment armed with knotted thongs of un-Christly cant. If of sound mind and healthy physical constitution, such a mother and her child are as expediently entitled to a fair and comfortable chance in the career of life as are wrecks of sickly women and puny offspring licensed to fill the world with human miseries by the professional announcer of marital testimonials. I would always agree to defend the innocent unborn of virile physique and spontaneous conjunction. This with all due reverence and respect to law and reason in liberty. One thing this country needs for the arrest of race suicide is the vigor and the valor of offspring generated by staunch virile men and women—as God's agency to reclaim a weakling, dying generation. I would seek to save the survival of the fittest from deriding crucifiers, that the Commonwealths of the land may be strengthened by every natural element of vital progress.

Our present study of race suicide now reaches the inner zone of wholesale striving to prevent conception among the legally married—the socially and legitimately recognized populators of the race. I may reasonably claim to be now an old obstetrician. Forty-six years of obstetrical and gynecological practice have convinced me that among our more intelligent class of American families, fifty per cent. of the births are the result of non-intentional copulative accidents, undesired "misses" at prevention of conception. Scarce a family, except probably that of President Roosevelt, is looking prospectively to the future welfare of born Americanism in these United States. The majority are not minded to marry and forthwith generate with national ambitions in connubial purpose. Where can we find an educated, discriminating American young woman who desires or consents to be spoused in order that she may become a large breeder for the good of the State? Self-release from the burden and life-long responsibilities of overcrowded motherhood is the foremost ambition that gauges connubial claims and procedures. It is the more illiterate humdrum class who ignorantly and innocently suppose that everything sexual is to run the untrammeled course of natural results, and therefore take helplessly the increase of unprepared-for numbers that come, whether or not the human output are viable to the fifth year of existence, whether or not the goad of circumstances, the clamor of needs, the dwarfed conception of refinement, the caprice of coarse nature are thereby recruiting beyond all precedence the ranks of vicious roughs and aggressive criminals with which our gentle and decent society is harassed.

No sooner than do most of our brighter American women marry, yes, even before they marry, than they studiously seek to become adepts in the availably practical means for avoiding conception. Under the excitements of man's early ardor, if precautions blunder or fail through inexperience, and an early child or two is projected into the household, preventive measures are revised or redoubled to more effective degree for limiting the number of births. Again, with certain women, the distractions of fear or dread, the sensations of distaste if not repulsion obtrude to deprive the wife of agreeable experience in copulative relations. If conception occur, the undesired child, the unwelcome maternity fret the spirit, fray the nerves, embitter the heart from which both the mother and fœtus are naturally injured in health and promise. Individual release from conditions of discomfort is the predominating concern: the need of the race is allowed to enter no acknowledged claim.

Furthermore, undesired conception having occurred, the problem of prevention temporarily shifts the experiment to that of removal of the conception. Thus we are up, face to face, with the atrocities of broadcast abortion as the ultimate march to race suicide. The example of one woman's dare of risk kindles a taper of courage in another woman. The success of one venture fortifies the hazard of repetitions, and so the bloody banner of child murder leads abroad the deplorable slaughter of the innocents. The case of one of the most intellectual wives of my clientele recurs to me this moment. I was called to what proved a distressful miscarriage at about five months. The situation was not confessed while in progress. On delivery, it was a boy—with a puncture through the presenting crown of the head. The position of the family did not allow me to ask questions. I silently exhibited the dead fœtus to the husband. He gazed a moment and replied: "I see; and it's a boy—I wanted a boy!" A mother was in my office but a few days ago, who told me of one of her married daughters who has undergone, by professional operations by an abortionist, four abortions in three years—each time declaring she would never take the risk again—but she did. This yet young wife was inducted into the venture by the example of a widow who had lived over repeated operations for miscarriage. A death here and there does not deter the next and the next candidate for escape from viable childbirth at term;—what they seek is the more successful operator. I was called at midnight two years ago to a young wife in whom two abortions had been produced.

The second one had brought her near the straits of death. The doctor who had started the catastrophe, demoralized with fright, had taken her by the hand in desertion and said goodbye. He declined to return to the case when sought. This woman's life was saved. The majority of these cases live through the ordeal, and therefore repeat the destructive venture rather than bear the child and assume the tax of its care and rearing. A literary lady of excellent social position, once after a violent spasmodic attack, astounded me by the statement that, rather than give birth to children by a husband who was distasteful to her, she had herself caused three miscarriages by invading the uterus —and had nearly died each time. A few years ago an aunt of fine address brought to me her young niece. With the coolest business-like air she informed me that her niece had "got into trouble," and she wanted to engage a careful physician, whom she would liberally pay, to bring said niece "all right again" by getting rid of the disgracing pregnancy before it would be allowed to become known. I replied that she had come to the wrong place: that if her interested niece were Queen Victoria's most favorite daughter in similar circumstance, and I was offered all of Queen Victoria's realm, I would not touch for her the work of voluntary child murder.

Such instances are narrated here only to show how stoically and desperately race suicide has burrowed its practice into the temper and the texture of the educated and alert womanhood of this country—the womanhood that so determinedly covet individual exemption from the risks and the worries of what President Roosevelt so aptly calls "the task" of family raising. And now the scattered remnants of our older families, that were forceful pioneers in developing the liberty, the citizenship and prosperity of the country, are industriously engaged in tracing out lines of genealogical records for preservation, while millions of conglomerate foreign emigrants, as ignorant and uncouth as correspondingly prolific, are flocking into every dell and city of our land, and formidably supplanting our honored American families that so swiftly are overreaching themselves by the overweening Yankee "smartness" of child prevention or race suicide.

There remains, however, an apropos moral adhering to this "task" problem of license-right of the husband to produce pregnancies. The wife may not possess a vigorous constitution. She is doubly entitled to considerate opportunity for personal comfort in life. She needs especially the resources and sustenance of health. She is an essential factor of successful home comfort to husband and family. As a conscientious wife and mother she craves the alternatives of being spared the tax of overplus pregnancies by avoidance of too frequent conceptions, that she may recruit and preserve a fund of vital strength to promise lengthened interval of love and service to her family. Connubially she is the passive agent. She is habitually "used" at the husband's will. In kindness even he may become the cajoling master of the situation. He may even selfishly intimidate the wife's reluctance to continuous childbearing by hinting that if he conceded to her preference for exemption, his own health would suffer and his life might be shortened. This is the specious argument resorted to by certain men. It is the soft cheek of fudge without blush—the fluffy doughcake presented to appease his reluctance to spare a wife by self-denial.

As a medical consultant in the stress of family ills, I accept a rescuer's duty and fearlessly but kindly perform it. I have repeatedly presented to such a man thoughts like this: Did you originally court this woman, and timely inform her to that effect, because you proposed, besides her other home cares, to keep her continually bearing and toiling for children? How did you get along in chastity AND LIVE before you married her? Is it not more desirable and happier to allow your wife longer rest between the drafts of pregnancies, to have fewer and stronger children with better prospects for the race, with a healthy wife to care for them, than to force upon her a houseful of weaklings who scarce live or do not live and whose care is exhausting the mother? As husband and father, will it not kill you five times faster to work yourself to death trying to support twice as many children as your wife really ought to bear, than it would kill you by practicing relatively harmless and sinless self-denial, or to do half way as considerately as before you married her, and thus allow her the comfort of escaping pregnancies beyond her natural strength? Is not a ratio of manly self-denial less sorrowful than avoidable deaths and funerals? There is the argument that does not tend to decimation of the race nor lead to race suicide.

Now follows a different moral. On September 18, 1905, was published this statement: "A woman, deserted by her husband, and penniless, applied for aid. She is the mother of seventeen children, seven of whom are 'dead and happy.' Although reduced to extreme poverty, the woman wants to apply to the President for a medal as example of an ideal wife and mother. The lady philanthropist to whose attention the case was brought appealed against 'indiscriminate applauding of unwelcome conditions.'"

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Motors and Odors are the subject of very timely editorial notice in *The Tribune*. The example set by a fashionable Swiss resort, in excluding from its precincts all automobiles and motor cycles which emit bad odors, should be enforced in our city parks. It is certain that public comfort and well-being would thus be promoted. It is quite true that on Sundays and other days when many people ride in these vehicles the nauseous stench of gasoline is perceptible to an unpleasant degree even on walks and lawns distant from the road. It is certainly beyond patient endurance to have the sweet smell of the flowers and the foliage, to enjoy which our parks are so eagerly visited, supplanted in this manner. Many automobiles are odorless; and no doubt many more of them could be made and kept so if only the matter were seriously attended to. The worst offenders are usually those which are run at the highest rate of speed. It is when the chauffeur "throws her wide open" that he leaves behind a trail of stenches rivalling Coleridge's perceptions of Cologne. It is to be emphasized that gasoline thus taints the air in precisely the places where people have a right to expect pure air and pleasant scents. Here certainly is a matter within the jurisdiction of the Health Department.

MODERN IDEAS IN THE TREATMENT OF HEART DISEASE.

BY A. K. YOST, M.D.

I HAVE a patient, a boy seventeen years old, who looks scarcely twelve, not only from his slight physical development, but from his immature appearance. His arms are exceedingly thin and lacking in power; his chest is also emaciated, and the entire precordium bulges with each systole of the heart, while near the base of the heart there is a distinct presystolic thrill, which may be seen and felt; a very loud mitral regurgitant murmur being heard. I have ordered him absolute rest in bed, in order that the ruptured compensation of his cardiac muscle may be removed and as he is going to be put at absolute rest in bed, we can afford to regulate and quiet his irritable heart by the use of small doses of both aconite and digitalis; two minims of the tincture of aconite and four minims of the tincture of digitalis every eight hours, putting him upon a liquid diet for a few days. After the heart improves sufficiently we will let him out of bed from half an hour to an hour a day, gradually increasing this time of activity until he is up all day. I believe that it would be a mistake to give this boy general nutrients and active tonic treatment, with exercise, with the idea of improving his general physical condition. He is stunted because his heart is not strong enough to supply a well-developed child; just as soon as his heart is strong enough to supply a well-developed frame he will begin to grow, increasing both in height and in girth naturally.

The following relations of the normal heart and lungs to the anterior chest wall was prepared by Haynes. I keep it cut out in my case-book.

1. Base of heart: A line crossing the sternum obliquely from the upper margin of the third right to the lower border of the second left costal cartilage, an inch and a half from the median line on each side.

2. Apex: In the fifth space near the upper margin of the sixth costal cartilage, two inches and a half to the left of the median line.

3. Right border: From the right end of the base curved slightly outward to reach a point an inch and three-quarters from the right of the middle line over the fourth cartilage and ends at the centre of the fifth cartilage an inch from the midsternal line.

4. Left Border: From the left end of the base with a convexity outward to the apex. It reaches its greatest distance (three inches) from the sternal centre over the fourth space.

5. Lower Border: A line curved downward at its beginning (at the lower extremity of the right border) and ending at the apex, and slightly convex upward in its centre as it crosses the middle of the ensiform.

6. Heart Dulness: A quadrilateral area to the left of the median line and below the upper border of the fifth cartilage, nearly two inches in vertical and an inch and a half in extreme lateral measurements.

7. Auricles. Right: "Ear-shaped," facing to the left, covering the first inch of the third right space and cartilage with the portion of the sternum adjacent to the latter. Its long axis measures about two inches and is inclined from above downward and outward. Left: Is a small oval space half an inch by an inch, its centre an inch and a quarter to the left of the median line behind the second left space and third cartilage. Its long axis is directed from above downward and outward.

8. Auriculo-ventricular Groove: Is indicated by a line from the right to the left heart border, beginning on a level with the upper margin of the fourth right and ending on a level with the lower edge of the third left cartilage. This line is convex upward and crosses the middle of the sternum on a level with the lower border of the third cartilages.

9. Aorta: A little more than an inch wide and about two inches long. Extends from the upper border of the third to behind the middle of the first cartilages. At its beginning and ending its centre is behind the median line, but in the middle of its course the artery is convex toward the right.

10. Pulmonary Artery: Begins on a level with the lower border of the third and ends behind the middle of the second left cartilages. Below its centre is half an inch and above three-quarters of an inch to the left on the median line.

11. Coronary Arteries: Both are nearly vertical; they incline slightly towards the median line at their lower ends. Right, an inch from the mid-sternal line. Extends from the upper border of the fourth to the lower border of the sixth cartilage. Left, an inch and three-eighths from the middle line in expansion, and three-quarters of an inch in contraction of the heart, extends from the middle of the third to the lower of the sixth cartilage.

12. The Anterior Margins of the Lungs in Inspiration: Right lies to the left of the median line, a quarter of an inch from and parallel with it from the upper margin of the second to that of the sixth cartilage (sternal ends). The left is in contact with the right from the upper border of the second to the mid-point between the fourth cartilages, where it turns downward and outward along the upper margin of the fifth left cartilage; the length of contact being two inches and a half.

Harris has studied three cases of indurative mediastino-pericarditis, and he has collected all the published cases of this rare lesion when autopsies were obtained. He thinks that this affection cannot be as rare as is commonly supposed; marked examples present an interesting clinical history, and one which is sufficiently distinctive to permit the recognition of the disease during life. Pathologically but probably not clinically, three classes of cases of chronic inflammatory conditions exist in relation to the pericardium and the mediastinum:—Class I comprises cases where there is an adherent pericardium, with marked increase of fibrous tissues in the mediastinum, not infrequently associated with a caseous affection of the lymphatic glands of the mediastinum, where there is adhesion of the exterior of the pericardium to the surrounding tissues—true indurative mediastino-pericarditis. Class II comprises cases of adherent pericardium with thickening of the sac, and adhesions of its exterior to surrounding parts, but with very little, sometimes no general mediastinitis. This has been termed pericarditis externa and interna; it is more common than Class I. Class III comprises those rare cases where there is an increase of fibrous tissue in the mediastinum without any internal pericardial adhesions or chronic mediastinitis.

This affection does not occur most frequently in children, as commonly supposed, for of twenty-two cases only nine occurred in persons under eighteen years of age, and thirteen in persons over that age, but only two cases occurred in persons over thirty years of age. The cases reported belonging to Class III, or chronic mediastinitis, all occurred in older persons, the youngest being thirty-seven. There is usually a history of acute illness, generally some acute chest affection, occurring some time before manifestations of the symptoms of mediastino-pericarditis. Occasionally this illness is clearly an attack of acute pericarditis; probably the acute illness represented the time when the disease commenced, and the manifestation of symptoms indicative of indurative mediastino-pericarditis at a later date represented the commencement of the cardiac dilatation and failure caused by pericardial adhesions. But in some cases the only previous acute illness was one of the acute fevers, such as scarlet fever or measles, while we find in many cases the onset has been insidious, without any symptoms of acute chest affection being noted. Trauma does not appear to play a part in the causation of this condition.

The symptoms are chiefly dyspnea, more or less evidence of venous engorgement and cyanosis, cardiac enlargement, increase in the size of the liver, and either general dropsy, or only ascites, and inspiratory swelling of the cervical veins. All these signs are not, however, necessarily present. Enlargement of the heart and dilatation rather than hypertrophy exist. This cardiac enlargement is due to the increased work thrown upon the heart by the adherent pericardium, and the degeneration of the cardiac muscles which supervenes. A marked increase of the mediastinal dulness follows, but this is usually due to increased size of the heart, especially the right heart. When the heart is very markedly dilated, and especially when it is pushed up by fluid in the abdominal cavity, the mediastinal dulness may be very extensive, reaching up even to the lower border of the first rib. In some cases, however, enlarged caseous glands, together with increase of the fibrous tissue of the mediastrium may, apart from the enlarged heart, produce dulness over the upper part of the sternum. The pulse may be practically normal, but more commonly it has been found small, frequent and irregular; the form of irregularity in which the pulse becomes smaller during the act of inspiration, or the "pulsus paradoxus," was formerly thought to be pathognomonic of mediastino-pericarditis, but Harris has shown that this "pulsus paradoxus" is not diagnostic, for it is seen where there is no mediastinal affection, and mediastinal-pericarditis may exist without this symptom. Clinicians now know that the pulsus paradoxus occurs also in different forms of pericarditis without mediastinitis, in cases of large pleuritic effusions, in great cardiac weakness, in convalescence from long-standing febrile affections, in great dyspnea from narrowing of the air passages, in cases of mediastinal tumor, and in mitral incompetence with dilatation. Compression of the inferior vena cava at its entrance into the auricle during the inspiratory period will produce it and slight diminution of the pulse has been observed in sphygmographic tracings taken from perfectly healthy persons. Engorgement of the cervical veins is common in cases of mediastino-pericarditis; they may show marked pulsation, just as in cases of dilatation of the right cavities of the heart from simple dilatation or secondary to valvular disease of the heart. A peculiar form of distension of the right external jugular vein has been considered of great diagnostic value; the vein being seen to fill and become distended during the act of inspiration, especially when a deep inspiration is taken, but unfortunately for its diagnostic value, this inspiratory swelling of the right cervical vein is sometimes absent, and it has also been observed in an uncomplicated case of pericarditis exudativa.

The duration of indurative mediastino-pericarditis varies from a few months to a number of years; the cause of death also varies, but generally it is due to gradual cardiac dilatation and heart failure, while bronchitis and catarrhal pneumonia frequently assist in bringing about a fatal termination. Attacks of pleurisy appear to be very common in the affection, and must assist in reducing the powers of resistance. In other cases we may have the development of acute tuberculosis or the extension of a pre-existing phthisis as the principal cause of death. No special treatment is of much avail and the management is simply that of cardiac dilatation.

Errors in the diagnosis of cardiac diseases may arise as follows, as pointed out by Jackson: (1) A murmur may be evanescent even in the presence of a well-marked valvular lesion as well as in mere functional derangements. (2) A murmur may be audible to the ear when applied to the chest, but not through the stethoscope, and this characteristic applies most frequently to the bruit of aortic regurgitation. (3) Murmurs do not always confine themselves to their regular areas, *e. g.*, an aortic regurgitant murmur may be heard at the apex only. (4) Estimating the size of the heart. Variations in the position of the apex beat are frequent under normal conditions, and on the other hand marked valvular disease may exist without enlargement of the cardiac area or sign of displacement. (5) Some cases regarded as functional palpitation are undoubtedly due to adherent pericardium. (6) The secondary congestion, *e. g.*, gastric and hepatic, may overshadow the cardiac lesion, especially in cases of acute dilatation without endocarditis. In aortic atheroma also the gastric symptoms may entirely divert attention from the graver lesion. A small aneurism of the first part of the aortic, producing cough and asthma by pressure on a bronchus, may easily lead to diagnosis of lung disease as the primary factor. (7) The presence of acute lung or general disease may mask so grave a lesion as malignant endocarditis, especially if the purpuric eruption and any murmur are absent.

Formerly it was taught that commencing pericarditis is first manifested by an increase of the cardiac dulness at the base of the heart, but this is combated by Ebstein who finds that the first alteration occurs in the lower regions of the area of dulness; there is a stretching of the pericardium towards the left side, but this is seldom discoverable, partly on account of the occurrence simultaneously of left pleurisy, partly on account of the overlying of the cardiac apex by the lung, partly on account of the loud tympanitic note in the semilunar space. Then the pericardial sac will be distended towards the right side also and this enlargement may be recognized clinically in nearly every case by the fifth right intercostal space, named by Ebstein the "cardio-hepatic angle"; this absolute dulness is of importance for the differential diagnosis between pure hypertrophy of the heart and accumulation of the fluid in the pericardium, because according to Ebstein, so far as has been hitherto ascertained, absolute heart dulness between the fifth and sixth ribs, even in exterme right-sided cardiac hypertrophy, does not extend beyond the right sternal border.

In cardiac asthenia there is habitual feeble action of the heart, which may come from two causes: either nervous failure or a weak heart muscle. It expresses itself frequently in a sudden cardiac collapse; the history is that the patient is obliged to stay in bed; all attemps at sitting up produce a sense of swooning and a vanishing pulse, or there is actual fainting at times. Cardiac action is feeble, the pulse small and compressible, and generally increased in frequency; and there is a sense of uneasiness in the cardiac region, but very rarely actual pain; while the extremities are cold and the general temperature is somewhat below normal. The capillary circulation is poor, the skin pale, occasionally injected or flushed; sweating is the exception, but the breathing is conspicuously unaltered, although there may be a sense of oppression. "I am out of heart rather than out of breath," was the expression of an observant patient of Da Costa, who added: "the heart has taken possession of the whole chest." The appetite is poor, though there are no marked gastric symptoms; the bowels are generally constipated. Insomnia may be complained of; while apprehension and melancholia are common; from this state the patient rallies slowly; for it may be one or two months before he can sit up without inclination to faintness, and months more before he recovers; the course of the disease being as markedly chronic as the onset was rapid. Slow pulses are quite the exception, and the pulse is feeble, very compressible, at times almost imperceptible; the heart's action is influenced by position, but not to the extent that the irritable heart is. The physical signs of this disorder are significant; no increased percussion dulness exists; the impulse is feeble, difficult to find, not diffuse. The first sound short, lacks in volume; the second is not accentuated. Excluding anemic murmurs, which are very infrequent, since anemia does not play an important part in the affection, there may be, though this is also rare, functional apex murmurs of dysmic origin. These cases happen in those who from overwork or worry have had their nervous tone lowered; the breakdown being primarily in the nervous system and not in the heart. The cardiac malady is throughout neurosal rather than muscular. It is very difficult to say to what part of the nervous system influencing the heart the disorder should be ascribed. Da Costa was inclined to attribute the cardiac weakness more to disturbances in the cardiac ganglia than in the centres in the medulla, and to the disordered inhibitory influence of the vagus. The changed respiration seems to be against the view of the centres in the medulla being decidedly affected, as the centres for the heart and the respiration are there so closely connected. The malady is not hysterical, as in the great majority of cases hysterical symptoms are conspicuously absent. The great majority of cases occur in men, and it is always a long-drawn-out affection. The evident nature of the causes that have given rise to the heart-wreck, its generally sudden onset, the unembarrassed breathing, the feebleness of the pulse and of the cardiac impulse, are full of significance. The physical signs as well as the state of the respiration in the clinical history separate the weak asthenic heart from the weak heart of organic type, such as the typical ones of this group—fatty degeneration and cardiac dilatation. From the irritable heart, it is diagnosed by the history, by the fact that in this malady the patient has had a heart-strain or a gastric or an intestinal affection, that he is able to be about, that the heart's action is generally much more rapid, much more influenced by change of posture, that the impulse is sharp, jerky, diffuse, the pulse quick, small, not so faint, the second cardiac sound sharp and clear. For the asthenic nervous heart, rest in bed is first essential, and, when the patient is able to sit up, nothing does him so much good as graduated shower baths; massage, too, may be employed, but many cannot at first bear it, and it comes in better later. Swedish movements may be recommended later, and carefully adjusted exercise, such as walking, or gentle horseback exercise, or light gymnastics, but these agents can be tried from the start, where the weak heart depends on a weak heart-muscle. From Swedish movements adapted to promote the flow of blood and to strengthen the heart, Da Costa has seen in this class of cases great good; the action of the heart becoming distinctly stronger and more regular, and in young persons a permanent cure may be accomplished. Nutritious food should be taken as frequently and in amount as large as the digestion will readily tolerate, is excellent with stimulants occasionally. It is astonishing in what quantities they are borne, and temporarily even required, in the nervous heart; though, for fear of forming a habit, withdraw them as soon as the circulation strengthens. Constipation demands attention; remedy it by diet and light laxatives. In this condition strychnine stands preeminent; the dose need not be large—rarely exceeding 1-30th of a grain three times daily—but it must be continuous. Iron is not called for except when a complication with anemia exists, or later in the case as a general tonic, for its tendency to constipate makes it often of doubtful value. Arsenic, for the nervous asthenic heart, comes next to strychnine; its action cannot be explained by its removing anemia, for it proves to be valuable where the blood count shows that there is no anemia. Of heart tonics digitalis is the best, but it is not the certain remedy we might suppose; best adapted to the cases of muscle weakness. Where we give it in large doses the patient should be kept in bed. It does not suit all cases. Strophanthus is generally said to be inferior to digitalis, but not in my experience. Adonidin and chloride of barium have done at times good service; while cactus and convallaria have been disappointing. Caffeine and cocaine are both valuable, but their action cannot be kept up; from cocaine one would run the risk of establishing the cocaine habit; it is serviceable during urgent symptoms of failing heart. Nitro-glycerine is not of much avail, except there be cardiac pain, unless combined wtih remedies like digitalis, which act more distinctly on the force of the heart, while bromides, valerian, and opium ought to be left to meet special indications.

Zeehuisen, studying the effects of the body-position upon the physical phenomena of the heart in adolescence, notes that the change from a horizontal to a vertical position makes the apex-beat assume a lower position, it being usually in the fifth intercostal space when the person is vertical and in the fourth space when he is horizontal; also, an area of dulness beneath the sternum is discovered when the individual is horizontal; while this vanishes when he assumes the vertical position. Both changes are due to the fact that in the horizontal position the thorax and diaphragm are in the position of expiration; while this changes to a position of inspiration upon assumption of the vertical posture; therefore murmurs are often heard more distinctly when the patient is lying down than when he sits or stands, due to the fact that the vertical posture is associated with the inspiratory position of the thorax, the heart being then more completely covered by the lungs, and murmurs or reduplication of the second sound being less distinctly transmitted. Even in health this is noted in the case of accentuation of the second sound of the aorta. Normally the pulmonary second sound is better heard than the aortic when the patient is horizontal; this is less noteworthy when he stands up. Zeehuisen has directed attention to the fact that with the changes of position of the thorax from that of expiration to that of inspiration there occurs a marked alteration of the relative position of the ribs and overlying skin, so that areas marked out on the skin in relation to the ribs are very different when the patient is in different positions; so that the percussion-area of the horizontal position grows greater upward and to the left when the patient assumes the upright posture. He believes that the cardiac phenomena, with the exception of those occurring at the aortic orifice, are better auscultated when the patient is lying down. For the discovery of modifications of sounds about the aorta, however, he states that the vertical posture is best; he especially directs attention to the fact that most office-patients are examined only when sitting or standing, and that abnormalities which might be evident in a horizontal posture are often overlooked in consequence.

Most functional heart-murmurs are of cardiac-pulmonary origin; there is no constant relation between them and dilatation of the heart or anemia, and they are heard most frequently over the pulmonary region; while if they were due to the blood-condition they would probably be more frequent over the aorta, since the blood-current is more rapid here, and the change in the lumen in the passage into the aorta is more marked, than when the blood flows into the pulmonary artery. Cardiopulmonary murmurs are produced by compression of the lung, or by aspiration when the heart recedes; a sound is produced because of the rapidity with which the movement takes place, this statement meeting the objection that the normal passage of air through the bronchi into the infundibulums does not produce a local sound. These murmurs are usually largely dependent upon the phase of respiration for their intensity and character; though this is not necessarily so, since the murmur is not dependent upon respiration so much as upon the cardiac movements.

OBSERVATIONS UPON GONORRHEA AND ITS COMPLICATIONS.

BY J. LEE FOWLER, M.D.

FENWICK combines dyes with urethral injections for obstinate gleet, for the reason that while the greater number of cases of gonorrhea recover under routine treatments, still a small proportion of gleets prove intractable, and drift from office to office. The morning discharge in these obstinate cases varies in significance, and for diagnosis Fenwick uses dyes. In the smaller number it is mere mucus—the secretion of the recently over-stimulated urethral glands; generally the thin gleety stuff is discharged from definite patches of congestion, from granular erosions, or from tracts of inflammation behind some large calibre stricture. Such changes of surface may be seen in all parts of the entire canal, from the opening of the bladder to the meatus. These diseased patches shed off the shreds of muco-pus which are so often seen in the morning urine in the shape of white flakes or threads. It is difficult for those who do not employ the electric urethroscope to say whether these patches or granular erosions are situated in the penile urethra, and are therefore accessible and curable by ordinary urethral injections; or whether they are located in the membrano-prostatic sections, and are beyond the reach and control of the injections which the patient is able to use himself. According to Fenwick the additions of dyes to the injection settle this point; for by such means the flakes or threads are dyed; he has been in the habit of providing each dispensary patient with a coloring injection, in order to save the time which is necessary for the examination of the deep or posterior urethra with the electric prostatoscope. The patient brings him the first part of the morning urine, and, if only colored threads are visible in it he knows that the penile urethra is at fault, because in only about six per cent. can an injection, given without undue force, pass the opening of the membranous urethra. If only white threads appear, the foci of the disease are in the deep or posterior urethra; generally there is a mixture of the white and colored threads, and this bears out the more advanced teaching concerning gleet, that the posterior urethra is, in a large majority of cases, affected as well as the anterior. The dyes used most commonly are tr. catechu mviij ad ℥j, and the liquid extract of red gum miv—mx ad ℥j; watery solution of methyl violet, 1 in 3,000, can also be employed; if he has time, the practitioner can wash out the penile urethra himself into one glass, and cause the patient to pass water into another so that he will be able at once to see whether the posterior section is involved as well as the anterior.

Routier of the "Hospital Chochin-Routier," in acute stage of gonorrhea does nothing beyond having the patient wear a suspensory bandage and take an alkaline bath every three days for ten days. If the case is of some weeks' standing the treatment can be commenced at once. If abscess, fistula or other complication, he treats these first before attempting to cure the gonorrhea. A reservoir holding two quarts is filled with solution of permanganate of potash (1 in 2,000), warm, if possible; an india rubber tube two yards in length with a glass nozzle at the end is fixed to the reservoir; the patient urinates, the reservoir is placed about five feet above the penis, the glans and meatus are irrigated, and then the nozzle is introduced into the meatus when the liquid flows in until it reaches the sphincter, when it returns and escapes washing out the anterior portion of the urethra; to reach the posterior portion of the urethra, the meatus is pressed against the cannula, and the liquid being able to escape forces the sphincter and enters the bladder. As soon as the patient feels the desire to urinate the current is turned off and the man recommended to press on the penis from time to time while ejecting the solution so as to stop the flow, by which means the liquid penetrates into all the glands and its action is increased. This may be repeated once or twice. If five feet is not high enough for the liquid to penetrate the bladder the reservoir may be raised. One seance a day is sufficient, and if the patient comes every day he is cured at end of eight days. To ascertain if the patient is really cured of his gonorrhea put a few drops of solution of nitrate of silver (1 in 1,000) into the urethra, a chemical inflammation is produced, and if any gonococci remain a drop of pus will be discovered in the morning.

Hutchinson in his treatment of gonorrhea nearly always uses abortive measures, never sees any ill consequences, while complications are rare; he says he should as soon think of delaying the use of local measures in gonorrhea as he would in purulent ophthalmia. His treatment is as follows: (1) An injection of solution of chloride of zinc, 2 grams to the ounce, is used three or four times a day; (2) 10 to 20 minim capsules of sandalwood oil, 1 three times a day; (3) a purgative night dose consisting of 3 drachms of epsom salts and ½ a drachm of bromide of potassium, in addition moderate purgation and entire abstinence from stimulants. If patient is well purged Hutchinson says there is no risk whatever in an abortive treatment from the day he comes under observation.

In synopsis of the remedies used in gonorrhea the *Medical Annual* gives this report:

Injections of silver nitrate, 1 to 2,000 or 4,000; ammonium sulph-ichthyolate, 1 to 100; sublimate, 1 to 30,000 or 1 to 2,000. Hutchinson uses first an injection of zinc chloride, 2 grs. to ℥j; next, sandalwood oil capsules; lastly, a purgative night dose of epsom salts with bromide of potassium. Saalfield treats painful erections with lupulin, camphor, monobromate of camphor and a combination of antipyrin with bromide of potassium (15 grs. to 45 grs. respectively); local washing and injection of thallin sulphate, one per cent., or weaker, four to six times daily, or zinc sulpho-carbolate, 2 to 3 parts to 1,000; or a mixture of zinc sulphate of 2-10 of 1 part, acetate of lead 4-10 of 1 part, distilled water 100 parts; or zinc sulphate, carbolic acid and alum, each .2 or .3, Aq. 100 parts; or potassium permanganate 3 to 100, or Resorcin 1 or 2 to 100, or solution of tannin 5 to 25 to 100 as injections. In addition salol, oil of santal, copaiba and cubebs may be used internally. Glenn used: ℞ Zinc chloride, gr. ½; zinc iodide, gr. j; Aq. ℥j, as an injection. Infante uses fluid extract of llareta, giving a tablespoonful daily of two per cent. mixture of the extract in water. Jadasson employed ichthyol for urethritis in women, and gonrrheal cervical catarrh; 10 per cent. ointment is used being weakened for application to the female urethra. Grivtzoff employs salol, 1.5 grm. with a few drops of peppermint oil three or four times a day with cubebs if desired, and for an injection; ℞ Salol, 10 grms.; Gummi Arab., 5.0; Aq. dest., 2,000.0; M. Ft. Emuls. Inject three or four times a day. Permanganate of potash, 1 to 4,000 solution, injected through a rubber catheter with lateral perforations. Carvallo uses: ℞ (1) Sol. of lysol (1 %), 100 grms.; Sydenham's laudanum, 3 grms.; M. (2) ℞ sol. of lysol (1 %), 100 grms.; cocaine chlorhydrate, 50 grms.; M. These injections are allowed to remain in the urethra four or five minutes, and are used three times daily. Now, however, some of the newer salts of silver are preferred and I believe in ten years that this list will be obsolete.

Stomatitis, with the formation of round, grayish-white patches on the surface of the tongue and cheeks, much swelling and soreness, and evidence of inflammation of the sublingual glands has been reported in cases of gonorrhea—cultures showing gonococci. The infection had been through the mouth, and had been preceded by a double gonorrheal conjunctivitis, and the buccal infection was probably secondary. There was also swelling soreness, and restriction of movement in the maxillary joints, attributed to a coincident gonorrheal arthritis.

A true stricture is cicatricial constriction of the urethral cylinder, involving all its layers and forming an impediment to the normal energy of expulsion; but inflammatory infiltration of the mucous and submucous layers of the urethra, though encroaching upon its calibre, but lacking the character of organized and permanent scar-tissue, does not constitute true organic stricture. Following a stricture is seen a phenomenon similar to that noticed in stenosis of the cardiac valves, for to accomplish certain work a greater expenditure of muscular energy is necessary, and muscular hypertrophy follows, which after a sufficient lapse of time develops into a state of fatty degeneration and fibrous contraction from which develops a contracted bladder; finally, a "backing up" to the column of urine, leading to dilatation of the membranous portion of the urethra, to contraction of the bladder, to dilatation of the ureters, and finally to dilatation of the renal pelves. Genuine traumatic stricture is the result of a partial or complete severing of the urethra by external violence; as the depths of the cicatrix generally includes all the urethral layers it is apt to produce a very tight and tense stricture, not amenable to blunt dilatation, generally found in the posterior part of the urethra, under the arch of the pubis, and a safe division can be attempted only by external urethrotomy, which, on account of the slightly diminished tendency to recontraction, must be supplemented by dilatation from time to time. For a lasting cure of traumatic stricture a plan has to be adopted which has yielded lately excellent results in the hands of a number of surgeons. It consists in the excision of the cicatrix and the suture of the mucous membrane and the other component parts of the urethra, but in gonorrheal strictures it is necessary to comprehend the details of the manner of its production. That gleet is due to the presence of a stricture has been entirely abandoned by modern venereal writers; it is a chronic discharge of varying intensity, directly due to chronic gonorrheal urethritis, which in the endoscopic field of vision is called now as the "granular form" of urethritis due to an infection of the submucous connective tissue, very frequently extending into the erectile body of the urethra, leading to the deposition of varying masses of granulation-tissue. Depending on the linear extent, depth, and general configuration of this cicatricial tissue the tendency to shrinkage will be lesser or greater and the density, rigidity, or resiliency of this cicatricial ring will also vary. Perfect evacuation and drainage of that portion of the urethra behind the stricture is not possible; hence urine, shreds of mucous, and pus, will be retained, keeping up a continuous culture of various micro-organisms for a chronic urethral process is rarely, if ever, caused simply by the presence of Neisser's gonococcus; the infection being a mixed one, other micro-organisms, staphylo and streptococci being present naturally stricture hinders evacuation and impedes medication from the outside; a chronic granular process first established in the navicular fossa, followed by a stricture creeps back, leaving permanent vestiges of its destructive work along the entire pendulous portion, in the bulb, and finally the membranous, and even the prostatic portion; until the entire urethra may present one continuous stricture. The gonococcus, though usually confined to the urethra, may involve the corpora cavernosa, the scrotum, perineum, and anal region to a most extraordinary degree.

In granular urethritis the deposit on a transverse section shows a rich network of capillary vessels; the mucous membrane being in a state of intense congestion, shedding the superficial layers of epithelium. In the endoscope such a patch appears to be "velvety," intensely congested, the tissues rigid, and bleeding on touch. As the cicatricial tissue grows the urethral scar becomes less and less vascular; in the endoscopic field the presence of this stage can be determined by the lack of the normal finely-folded, star-shaped arrangement of the mucous membrane, and by a very striking phenomenon, due to the ready expulsion of all blood from the mucous and submucous layers of the urethra by the endoscopic pressure; the proximal end being withdrawn, the strictured portion escapes the distending pressure of the instrument, the field of vision, formerly white, becomes quickly reddened by the return rush of blood. Before the endoscope the precise and scientific diagnosis of the distribution of the gonorrheal process in the urethra was uncertain; then local treatment was a wholesale procedure, the entire urethra being subjected to medication, with unsatisfactory results.

Nowadays in up-to-date work in chronic urethritis locate the exact place of the gonorrheal infection. For this the endoscope is necessary, not only on account of its diagnostic properties, but for precise and rational local treatment. Solutions of the newer forms of silver, varying in strength according to the case, are the most valuable. The holder of steel wire is armed with a tuft of absorbent cotton, by means of which a precise application can be made. A recent deposition of granulation-tissue can be modified by mechanical pressure, exerted by a steel bougie and augmented by gentle massage over the instrument. This requires a complete eradication of the specific coccus beforehand, for which repeated applications of silver are necessary. These early vascular and elastic bands in the submucous layers of the urethra, designated by Otis as "strictures of large calibre," were generally cured by free division and subsequent forcible dilatation; Gerster repeatedly tested the fact, by careful and long-continued endoscopic observation, that a recent inflammatory narrowing of the urethra, due to a vascular deposit, was seen to shrink rapidly after scarification either with a urethrotome or with a tenotomy knife, followed by mechanical pressure exerted with a steel sound; cure is considerably hastened by a complete division of the diseased tissues. The results in cases where the organization of the deposited granulation-tissue into fibrillar connective tissue is completed are not so good, for no lasting cure or freedom from tendency to recurrence can be secured here, no matter what the treatment. Necessarily, a new cicatricial deposit will be interposed in the gap caused by the urethrotomy, and, left alone, the process will irresistibly tend to constrict again. Gerster states that "where a circular and cicatricial stricture, involving all the components of the male urethra, has been established, whether through a traumatism or through a gonorrheal process, a complete, lasting, and radical cure cannot be accomplished by any of the known methods of surgical treatment short of incision and suture; a vast proportion of cases of granular urethritis tending to the formation of permanent stricture can be managed successfully, and in a manner to eliminate the morbid process, and thus to prevent the formation of permanent damage to the urethra. A small proportion of all cases of gonorrheal urethritis, intractable, will tend irresistibly to the completion of the fatal circle, ending in the formation of permanent stricture."

In impermeable stricture the first indication is to evacuate the bladder by the passage of a catheter; should this not be successful, even the passage of a filiform bougie will afford relief. Should this succeed, it is wise not to withdraw the instrument for the sake of trying to pass a larger one, as it may be impossible. Fasten the filiform bougie in position and leave it for twelve hours; urine will pass alongside this instrument in increasing quantities. If the patient's distress is excessive tap the bladder above the pubes by means of an aspirating needle. After the lapse of ten or twelve hours the irregular channel of the strictured place will have been flattened out, by the bougie, and the local congestion will have diminished to such an extent that instantly after the withdrawal of the filiform bougie a larger instrument can be passed in without trouble. No trouble should be found after this in dilating the stricture sufficiently, and maintaining this dilatation; failing to pass the stricture the dangers of retention remaining unrelieved, evacuation of the bladder will have to be accomplished by aspiration above the symphysis. As the congestion of the stricture is relieved, micturition will improve and the passage of an instrument will become possible, until then puncture may be safely repeated five or six times, but should these expedients fail and the stricture remain impermeable, and serious cystic disturbances arising, instant and radical relief becomes imperative by the use of external urethrotomy without a guide. Petit and Cocks developed a method based on correct principles, and has been employed by them and many others, a great number of times; the deepest part of the urethra lying behind the stricture is considerably dilated, this dilatation being proportional to the duration and tightness of the stricture. The diameter of this retro-strictural part of the urethra when empty may be three-quarters of an inch; this dilated pouch, being practically a direct extension of the hollow of the bladder, and lying just in front of the prostate, can be easily punctured if its situation is understood; the left index finger, having been passed into the rectum, is pressed up against the prostate, the exact location of which being thus marked, a narrow knife is introduced just above the anus, clearing the sphincter, and is passed directly towards the space located just above the left index finger; the object being of considerable size, cannot be missed, and a gush of urine escapes along the blade; do not withdraw the knife until the grooved director has been placed securely beyond its point; whereupon the knife can be removed, dilating the wound in an upward direction along the median line. Should a stricture be situated behind the triangular ligament, internal urethrotomy must be preceded by external urethrotomy; whether the stricture be permeable or not, drain the bladder first by external urethrotomy before the strictures situated behind the bulbous portion are cut—in this way securing permanent drainage of the bladder and the possibility of its local treatment by irrigation. Should hemorrhage be serious, pressure can be safely and permanently exerted upon those parts lying in front of the opening in the membranous part. After the guide has penetrated the stricture, external urethrotomy can be undertaken and the greatest danger is the injury to the vascular mass of the bulb of the urethra, consisting of erectile tissue supplied by the bulbar artery. Injury to this plexus is always followed by considerable hemorrhage, which cannot be controlled by ligature, and not always by pressure. Remember that as soon as the skin, fascia, and perineal muscles are divided the bluish and elastic body of the bulb will appear in the bottom of the wound, just above the sphincter ani, about one-half to one inch from it. This space corresponds to the membranous portion of the urethra, and in this space the urethra must be opened. The bulb can be raised out of the field of operation by means of a blunt hook; the surgeon's finger can easily feel the guide; as soon as the urethra is open a probe is passed into it and through it into the bladder. The knife is withdrawn, and the grooved director is passed down the probe, which is withdrawn, to be followed by the introduction of a closed forceps. When this is withdrawn, with its branches held open, the innermost portion of the urethra is sufficiently dilated to introduce a soft catheter by means of which the bladder can be thoroughly irrigated. Otis's urethrotome is excellent, except that its thorough cleaning and drying is difficult, due to the presence of riveted joints; these joints frequently became rusted, and broke when in actual use; and the exact location of a stricture to be cut had to be carefully marked out on the instrument, and the second separate examination was necessary to determine whether the stricture was sufficiently divided. Principally with a view towards the perfection of an instrument capable of thorough and easy cleansing, Gerster has constructed a urethrotome which is simple, strong, which by its bulbous apparatus will correctly indicate the exact location and the extent of every stricture, and in dividing the strictures will at some time indicate whether the stricture has been cut in its full linear extent to a sufficient depth for the re-establishment of the desired calibre. Using this instrument it is passed in the closed state with or without the guidance of a filiform bougie and the tunnel at its beak, through the stricture to be divided. Then it is opened to the desired calibre, which is indicated on a dial near its handle.

The penis being grasped by the left hand, the instrument is drawn forward during which act, the stricture, being put on the stretch by the bulb, is divided by the knife hidden during introduction in the beak of the urethrotome. To pass the stricture the knife must cut through all resistant tissue, and at the moment when the bulb of the instrument has passed the strictured portion it may be safely assumed that the desired calibre has been gained. Two, three, or more strictures can be thus divided one after the other without changing anything in condition of the instrument, which will slip harmlessly through those parts of the urethra which are not constricted, the tension of the normal urethra produced by the dilatation not being sufficient to resist the passage of the small cutting blade. If the meatus is too small to admit the introduction of any necessary instrument into the urethra, divide it with a probe-pointed knife enough to admit this instrument. Flush the urethra as soon as internal urethrotomy has been performed, and the urethrotome withdrawn with an antiseptic lotion. To ward off secondary hemorrhage a good-sized webbed bougie or catheter should be passed down to the elastic catheter previously brought out through the perineum, and, being tied in, should be left in situ for twelve hours; to prevent hemorrhage, the calibre of this webbed catheter should be great enough to exert pressure upon the cut urethra. Where internal urethrotomy alone is performed, serious hemorrhage following, a full-sized catheter should be passed into the bladder, and left in situ for twenty-four hours; if this is not the case do not distend the urethra at all. Splint the penis between two well-padded strips of pasteboard or veneering, firmly compressed by a few turns of the roller bandage. Finally a T-bandage is applied, bringing and compressing the genitals well up over and against the symphysis pubis. Slight hemorrhages will frequently occur during the first acts of micturition following urethrotomy, which are easily controlled by finger pressure which the patient can be taught to apply himself; for profuse hemorrhage a webbed catheter can be passed, and tied in for a day. Should the urine be ammoniacal before external urethrotomy, drainage of the bladder is to be maintained, and local and internal medication employed until the urine becomes acid, when perineal drainage can be stopped. In cases where the urine is acid at the time of the operation perineal drainage is maintained, as a matter of routine, for five days, when dilatation by the daily passage of steel sounds is usually begun. Before using a sound thoroughly irrigate the urethra and bladder. The external wound should be lightly packed with iodoform gauze, which is to be renewed after each urination, followed by the local treatment based on general principles. From the third week on the steel sound is passed only twice a week, this practice being systematically continued until the last trace of a tendency to contraction is lost. These patients should be instructed in the proper use of the steel bougie, with the warning that neglect will certainly be followed by a return of former conditions.

I believe thoroughly in these ideas in the treatment of gonorrhea that initial gonorrheal infiltration of the urethral wall or so called "granular urethritis" needs endoscopic treatment by the applications of some form of silver, aided by bougie pressure, massage, with internal urethrotomy if necessary, preventing in this way the formation of permanent stricture; cure depends on the absence of gonococci in the discharges and the re-establishment of the normal urethral calibre; on the other hand unchecked granular urethritis ends in the formation of permanent cicatricial stricture and urethrotomy of organic stricture is only palliative, not radically curative.

External urethrotomy should precede internal urethrotomy of the membranous portion always, but after all excision of the stricture and suture of the healthy parts of the urethra is the measure par excellence, for a permanent cure.

Medical Education was the subject of a report by a committee of the American Medical Association at Portland. After conferences with forty-two states and territories, the Army representatives, the United States Public Health and Marine Hospital service, the Association of American Medical Colleges and the Southern Medical College Association, the consensus of opinion was stated to be: That the Council on Medical Education should be considered a nucleus about which should crystallize the efforts to elevate the standards of education; there should be an annual conference of the licensing bodies of the states and territories, the representatives of the medical faculties and of the faculties of colleges of the liberal arts. A permanent organization of the council is desirable, with a secretary and sufficient equipment and financial aid for the efficient prosecution of its work. The following requirements were urged: 1. A high school education, with examinations to prove the students' fitness. 2. A four-years' course of seven months each, no two in the same year, the course to be approved by the Council on Medical Education, by licensing boards of the states and territories, and by the faculties of the medical colleges. 3. The satisfactory passing of examinations, conducted by the licensing board of the state or territory within whose bounds the candidate expects to practice. The opinion was expressed that the time was not yet ripe for reciprocity between the licensing boards of the various states and territories.

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MODERN RESEARCH AND GASTRIC ULCER.

CERTAIN old-fashioned conditions are being analyzed and criticized by the searchlight of modern pathologists, bacteriologists, surgeons and physicians. The old adage that "many hands make light work," applies particularly in medical research. Life is so short, and science, as well as art, is long; so a group of workers may do far more work proportionately than an isolated observer working here and there. Medical societies are encouraging with wise forethought expositions of various vexed problems by men gathered from various sources, who are looking at the same subject from different standpoints. This is the age of co-operation, as well in medicine as in business, or the trades.

No subject deserves more careful, thoughtful investigation than that of gastric ulcer. The stomach itself, despite its shorn reputation, is still a most marvelous organ, viewed from any standpoint, especially so when a pathological condition develops.

The Philadelphia County Medical Society recently held a special session on the subject of gastric ulcer, in which many definite facts were produced. This form of ulcer usually single, is found most frequently on the posterior wall of the stomach, near the lesser curvature. In seven hundred and ninety-three cases collected by Welch, he found two hundred and eighty-eight cases or thirty-six per cent. on the lesser curvature, two hundred and thirty-five cases or thirty per cent. on the posterior wall, while ninety-five cases or twelve per cent. were at the pylorus, only nine per cent. on the anterior wall and only four per cent. on the greater curvature. The ulcer occurs at all ages; in a summary by Siegel, the cases are fairly well divided as to age; as to sex, observers vary greatly. Many authors believe the disease more common in women, but the proportions vary tremendously. Chance undoubtedly plays an important rôle in the incidence of this disease.

Again, such factors as occupation are most indefinite—cases occur in all walks of life—a few observers have tried to force conclusions as to certain towns and countries; for example, Miller and Starcke have found gastric ulcer very common in Thuringen, being seen in ten per cent. of the cases that came to autopsy, while in Munich, Nolte only found it in one per cent. of cases in seven years, and at Johns Hopkins Hospital, Osler only found nine cases in a thousand autopsies.

The interesting feature is the question of etiology; here again we meet much that is obscure. McFarland recognizes eight probable sources: the traumatic theory either internal or external, the acid theory, the alkaline theory, the hemorrhagic theory, the vascular theory, stagnation of the gastric contents, nervous theory and infection. There are certain features that favor each of these theories and each has firm supporters. Thus Virchow favored the vascular theory, that the condition was due to obstruction of the small nutrient vessels by thrombi or emboli. Panum was able to produce such embolism and saw typical ulcers follow.

Parry taught that diminished alkalinity of the blood predisposed to attacks upon the mucous membrane of the stomach by its acid contents. McFarland's conclusions are most excellent in this connection, for he writes "it seems justifiable to conclude that gastric ulcers may arise from numerous and very different causes, though in all probability such ulcers are not identical with those known to clinicians as the round ulcer or peptic ulcer. The etiology of this particular lesion seems to require the co-operation of two factors: (1) the corrosive gastric juice and (2) a local loss of resisting power in the tissues with which the juice comes in contact. (1) *The gastric juice,* should our assumption regarding the diminished resisting power of the tissue be correct, need have no abnormal composition and need not be excessively acid, so that it can be dismissed as no more than an incidental factor in the production of the lesion. (2) *The lost resisting power of the tissue, therefore,* becomes the essential factor. This cannot be common to the whole gastric tissue, else the lesion could not be local. It must be focal, and, therefore, must depend upon some condition operating upon a circumscribed area of the tissue. It seems very improbable that it can be traumatic since experimental, operative and accidental lesions of the stomach heal so kindly in most cases. It must, therefore, be nutritional and vascular, whether the vascular disturbance depends upon traumatic injuries of minute vessels resulting from overdistention, pressure, embolism, thrombosis, infection, intoxication or defective innervation, remains to be shown. It is not improbable that all of these have to do with particular cases. The nature of the defective tissue resistance is obscure and will probably elude our efforts to discover it, as the normal immunity of tissue so long has done. In the light of our modern studies, one no longer refers the immunity of the gastric mucosa to the alkaline mucus that covers it or to the alkaline blood circulating in its capillaries. It is simply the immunity of the normal living tissue to its own products. So soon as the vitality of the tissue is disturbed, this immunity fails in part; when it is lost it disappears. If we refer the immunity of the stomach to the action of pepsin to the alkalinization of the hydrochloric acid by the blood salts, how shall we explain the immunity of the intestine to trypsin which is active in alkaline media? Both are due to the natural immunity of the respective cells to the respective enzymes, and the nature of this natural immunity is unknown."

There are few diseases so difficult to diagnose as gastric ulcer, as Howard points out. In the first place, the disease may run an absolutely latent course until death ensues either from some intercurrent affection or from one or other of the complications or sequelæ of the ulcer itself. Again, a diagnosis may have to be made purely upon the subjective symptoms of the patient, or what is very little better, upon a history of vomiting of blood. Patients' statements in the vast majority of cases are absolutely unreliable. It is so easy for the untrained eye, nay, even the trained, to mistake for blood various pigments in the vomitus or stools. Further, no *single* symptom, even hematemesis, is diagnostic. There are three symptoms necessary to determine the presence of an ulcer: (1) pain felt in a localized area on palpation or recurring in paroxysms depending upon meals, (2) hematemesis, (3) hyperchlorhydria. Yet hyperchlorhydria is by no means the rule. In regard to vomiting of blood, many physicians consider it a positive sign. But we first have to establish the fact that the suspected material is blood. This is easy when the hemorrhage is bright red in color or in dark clots; when the amount is small and the blood has been acted upon by the gastric juice, the difficulty arises. Microscopic examination may reveal the presence of red corpuscles or their shadows. If this be negative, one has to resort to some chemical test. Einhorn and others recommend Weber's Test for this object, and especially for the detection of occult or concealed hemorrhages in apparently normal stools. It consists in mixing the suspected material with a few cubic centimeters of glacial acetic acid and then shaking thoroughly with sulphuric ether. If blood be present, the extract becomes a Tokay wine color. If the color be not distinct, add to the above ethereal extract equal parts of tincture of guaiacum and ozonized oil of turpentine; a bluish violet color will result if hemoglobin be present, a reddish brown if absent. Raw or even boiled meat may cause this reaction. Now having determined the presence of blood, we have to exclude other possible sources than simple ulcer, as the carcinomatous and tuberculous forms or even simple erosions: also varices in cirrhosis of the liver, and hemorrhage from the buccal cavity.

When it comes to treatment, undoubtedly Leube's methods are far in advance of anything we have at our hands for this condition. The chief features of his method consist in the regular use of poultices and cold water compresses, the internal use of Carlsbad water and a carefully regulated diet. Medication becomes a secondary and often a non-essential feature. Rest in bed is also a vital feature in the treatment. Leube is most particular about his directions; they are as follows:

The patient is put to bed and kept there for ten days. On the first day the epigastrium is carefully washed with alcohol and sublimate solution; an ointment of boric acid spread upon a cloth is then applied to the same region, and over the cloth a hot flaxseed poultice about 20 cm. long by 10 cm. wide. The poultice is changed every fifteen minutes and is kept applied for from ten to twelve hours during the day. At night a cold water compress is substituted for the poultice, the cloth spread with ointment being interposed between the compress and the integument. The boric ointment dressing is changed but once in the twenty-four hours. An occasional effect of these continued hot applications is the formation of vesicles which rarely suppurate and invariably heal as soon as the dressings are discontinued. As a result of this topical treatment both the gastric pan and the epigastric tenderness disappear with remarkable regularity, about the fifth day. In the exceptional cases in which the pain persists the poultices are continued (during the day) for five days after it has ceased. From the above it is evident that, in the majority of cases, the poulticing is kept up for ten days. After the cessation of the poulticing a cold water compress is applied at night for three weeks while, during the day, the patient wears an abdominal bandage of flannel. After meals during the convalescent period, rest in the recumbent posture for one or two hours is enforced, and the patient is strictly forbidden to make any exertion or to pursue any occupation, such as sewing or knitting, which involves the bending forward of the trunk.

There are certain contraindications to the employment of poultices, one of which is the recent occurrence of gastric hemorrhage. Leube's rule is not to apply poultices unless three months have elapsed since the last hemorrhage. In such cases the cold water compress is substituted and even this is withheld unless eight days have passed without hemorrhage. The term hemorrhage, be it remembered, is not synonymous with hematemesis. To determine the presence or absence of hemorrhage, the feces should be carefully inspected. When hemorrhage is present at the beginning of the treatment or within eight days thereof, an ice bladder is first applied, to be replaced later by the cold water compress. Another contraindication to the employment of poultices is the occurrence of menstruation.

From the beginning of the course of treatment the patient is placed upon the use of Carlsbad water which should be swallowed in the morning before breakfast, neither too hot nor too cold, taking ten to fifteen minutes to complete the operation. Nourishment is given five times daily, principally being boiled milk.

Henry has employed Leube's method in a modified way, which consists in nourishing the patient during the first week of treatment either entirely or partially by rectal enemata and in the use of opium or its derivatives.

As to the surgical treatment of gastric ulcer it is uncalled for as a rule. Leube claims that in from 75 to 96 per cent. of cases it is worse than useless, for the patient can be cured by other means. Surgery is indicated only when some crisis is impending. Hemorrhage should be treated by medical means until they prove ineffective but operate as a rule after a third or fourth severe hemorrhage. Rodman suggests after the second. The abdomen should be opened with the expectation of doing that operation which seems best to fill the indications with the least risk. Gastro-enterostomy is generally chosen.

It is well to remember that in sixty per cent. of cases of gastric carcinoma there is a previous history of ulcer, thus May, in 157 cases of carcinoma, found this proportion to exist.

THE SURGICAL USE OF SCOPOLAMINE.

It would be an interesting investigation for a reader with plenty of time on his hands to take a full copy of one of our great Sunday papers and learn what percentage of truth its articles contain. Frequently we fear the percentage will prove to be very low. For example, recently one metropolitan paper had a livid article on Japanese bronzes, filled with remarkable statements. Each statement was founded upon the experience of some great collector of bronzes, who was mentioned by name. An inquiry directed to each man brought forth the fact that the statements were either entirely untrue or else so distorted that they were wholly misleading. Beyond paying the board of some ingenious writer the article was absolutely worthless.

Especially is the subject of medicine unfortunate when it falls into the hands of the writer of special articles. All "ifs" and "buts" are blue penciled and the busy gleaner of facts decides at a glance questions over which great minds have been honestly divided for decades. So the profession and the public must take all medical advances as heralded in the daily papers with whole handsful of salt, for the proverbial pinch will be insufficient.

In the past few weeks the readers of the Sunday papers have learned that a new drug, "scopolamine," has been discovered which renders ether and chloroform as out of date as the stage coach and the canal boat. There is no danger in the use of this drug we are solemnly assured and in a few days every surgeon will be using it, for it will make surgery child's play or even a source of an afternoon's pleasure.

The unpleasant feature of such an article is that it is accepted by the public, hook, line and all, and unfortunate surgeons are kept busy explaining why they are not using it and resisting the impression that they are behind the times. On the contrary scopolamine is not a new drug, although just admitted officially into the U. S. Pharmacopœia. It is named for an Italian physician Scopoli, who described it as far back as 1871. It was described by botantists as a common plant of Bavaria, Austria and Russia, resembling belladonna in leaf and flower. Its alkaloid scopolamine is found in other plants of this group, especially in belladonna, hyoscyamus and stramonium. It is apt to contain atroscine, another powerful alkaloid; in fact by some authorities, it is believed to be a mixture of hyoscine hydrobromide and atroscine hydrobromide. Shoemaker in a recent paper on this subject in the *New York Medical Journal* calls attention to this fact as explaining its diversity of action. Instilled into the eye, dilatation of the pupil follows with complete temporary paralysis of accommodation, but it varies from atropine in the fact that it does not increase intraocular tension and its mydriatic action is shorter on the circulator and the nervous system; it differs widely from atropine; it does not affect the respiration; small doses slightly increase the blood pressure while large doses decrease it. It diminishes cerebral activity, narcosis and coma being produced by large doses. A marked depression in the spinal cord appears and profound relaxation of the voluntary muscular system. It is extremely toxic; as far back as 1889 Morton reported serious symptoms from the use of grain 1/75, and unfortunately it seems to be far more active in some organisms than in others.

In 1900 Schneiderlin suggested its use in surgery, combined with morphine, injected near the field of operation or along a nerve trunk. The dosage as laid down by Korff is 1/10 milligram of scopolamine and 25 milligrams of morphine divided into three doses, one injected two hours and a half, one an hour and a half and the last thirty minutes before operating. It is claimed that if it is not desired to depend on this drug alone, that these injections reduce psychic excitement and facilitate other anesthesia.

As yet this drug has not been used sufficiently for us to draw definite conclusions but it is to be feared that it will soon drop into oblivion for apparently the risks are not worth whatever apparent advance the drug possesses, but this will not deter the Sunday paper writer; he will go merrily on to the next promising topic like the ever active humming bird and probably he will forget his optimistic words and statements as thoroughly as does the plumed traveler forget the dainties presented by last year's flowers.

FOOD AND MEDICINE.

WHOLESOME foods are nutritives, and nutrition of the body conducts and establishes its cure when sick. Nutrition is the balance wheel of vital functions; the true reconstructive in disordered or diseased conditions. In yet ampler phrase, the therapeutic values of food hold highest rank among the marvellous and brilliant battalions of drugs that volunteer curative service for the general physical ailments of humanity.

The time is not remote when in medical treatment of the sick the drugs employed were relied on as the curatives, while the vitalizing nutritives were by routine severely enjoined as prejudicial,—this to the unpardonable injustice and detriment of the patient. Medicine has required the luminant of not only a restudied physiology, but of a clarified philosophy to establish the normal advance of the Healing Art, and of the human rights of patients when striving with physical depression incident to disease. The equivalents between waste and repair must be sustained to hold the field and repulse the foe.

In reading over reported cases, particularly described, and from which was anticipated agreeable results of elaborate therapeutic formula prescribed for treatment, it has seemed like the chagrin of acute irony for the interesting narrative to close the prospect somewhat like this: "Although the allowance of food had been carefully restricted, a single indiscretion in diet resulted in sudden relapse, and the patient succumbed." Perhaps the mournful end came on the tenth or the twentieth day of illness. If the liberal allowance of food was by doctor and by nurse considered antagonistic to the pharmaceuticals employed to combat the disease or to bridge the emergency,—or even considered incompatible with a weakened state of digestion,—between the depression or exhaustion by disease and the systematic restriction of food, for how many days would the vital energies be expected to withstand the doubled sapping of life's dwindling forces? How is the bared and denourished mortal system to safely carry, successfully digest and eliminate the regularly-repeated doses of foreign chemical impedimenta introduced as medicines, without the modifying and liberally supporting co-operative nutritives that well-chosen and plentiful food can normally furnish?

The medicaments may be veiled with some dreamy narcotic; the blood may be transposed by the metastasis of iodides or bromides or coal tar chemicals; the lymphatics and nerves may be freighted with the encumbrance of a score of high-praised and valuable combines, to say nothing of the riot of mercurials and alcohol;—but, without the stay and sustenance of an ample and refreshing float of vitalizing foods, would it not be expected that the toxemia of disease and the toxemia of medical compounds together bear heavily with their systematic aggression against the reinstatement of normal health? Patients generally, of whatever age, with whatever disease or physiological situation they are confronted, need logically and essentially the most generous scope of reasonable diet that their relish will admit, to tone and strengthen digestion, to aid and promote prompt restoration of the vital functions to healthy condition, and thereby to enable the patient to outflank vital depression and its drift to dissolution.

Results are stronger than doctrinal assumption about arbitrary restrictions in diet. Successful results should be conclusive when on the normal side of demonstration. If the physician who gives his patient the advantage of food adjuvants,—all arbitrary diet restriction theories to the contrary,—but who experiences the satisfaction of seeing his patients make unusually prompt and substantial recoveries, he may rely on the good sense of his methods and sleep with restful mind and nerves as regards his repute among his grateful clientele. All in all, we treat patients to cure them, we do not practice medicine to exploit the physiological properties of chemicals. Chemicals may serve as our crutches, our aids, our palliatives of acute distractions, but the nutriments of wholesome foods are our saving ordinances, our vital sustainers, our natural components of normal functions in the economy of life.

On broad principles, what the body needs seriously in sickness as well as in health is restorative food—food to confront its wants and every variety of its wants —reconstructive, repairative, relishable, defensive nutrition. Any set formula, any limited article, any routine cook-book catalogue of rules are but like chaff and stuff as compared with the awakened odd taste and systemic relish that make food not only an available adjunct but a saviour of imperiled life. Because of the prohibitive wisdom of attending physicians there have been many women half-starved into prolonged debility after child-birth. A practical-minded accoucheur was early taught his conservative lesson in successful and happy getting-up after labor in this wise. At his visit the day after delivery, his young patient smilingly said: "Doctor, do you think it would hurt me to have some potpie?" He studied a moment. He mentally analyzed the problem of potpie. What was it? A little dough made of flour, milk and egg; a few fibres of meat and a bit of white potato, and a juicy water gravy of this compound—a simple nutriment. "You are so well, I do not think a little potpie would harm you," he replied. "Very well," rejoined his delighted patient, "I wanted to ask you, for I was hungry and I ate pot-pie for dinner, and I don't feel any the worse for it." This woman's liberal diet throughout enabled her to "get up" from child-bed so strong and well, that this physician ever after, for forty years, held to the wisdom of sustaining all patients after child-birth with the refreshment of liberal foods, including obtainable fruits.

A decade ago, a little girl, then ten years of age, was burned to a crisp around her thighs, nates and back to waist, by her clothing taking flame at a boys' bonfire on an open lot. Death seemed but a question of hours. Her immediate fever created intense thirst, which the physician took advantage of for the free administration of stimulants in the form of tap ale and whiskey, which she continually craved. As she lived on from day to day, the doctor urged that she switch off to more normal drink. She turned to large quantities of milk for about ten days. She next took a fancy for "solid food." The only thing she craved was fat pork and radishes—which she eagerly craunched as though they were apples. For two weeks she lived solely on this diet, but holding to milk for drink. Though she sloughed pints of pus she yet lived. Later on, her relish changed to desire for beef, and gradually, she resumed the usual forms of home diet. She was desperately ill for a year, but eventually healed and recovered. Her starter to sustain life after the whiskey and the ale was the exclusive diet of fat pork and radishes. A physician of ingenious comprehension a few years ago was called to a case of exhausting diabetes with serious stomach complication that rejected all food and drink. All he could hope for was that his new patient might temporarily rally. With the aid of medicines, after days of failures, sauer-kraut proved acceptable to the stomach and started the course for better foods. The lady, who was past middle life, improved sufficiently to devote two years longer to mission work among slum people in her city. The wisdom of selection does not always depend on the doctor, but on the receptivity and suggestion of the patient's system as expressed by the hint of relish. There are many crises where drugs alone can never cure, but where nutrition saves.

Quantity at a meal does not count in the problem of nourishing the sick—since the quantity taken at one time is usually so small that frequency becomes the more necessary. The cardinal condition is that too much dependence be not hung on the therapeutics employed. The wonderful varieties of wholesome foods at command will safely supply invaluable adaptations to idiosyncrasies of tastes and needs of individuals. Next to pure air the comfort of food is the greatest friend known to humanity. In cases of any continuance, even the best medicines, non-vitalizing compounds, achieve best results if floated through the blood and disordered tissues and organs on an abundant tide of vitalizing nutritives necessary for reconstruction and healing. Of all creatures under the sun, growing children need most liberal variety of food, that there shall be no starving or malnutrition in any department of the constructive work-house of their bodies. Delicate, puny children, restricted by rule and rote to narrowed regime, are no credit to the misguided wisdom of the parent, and often bear in deformity through life the image of the atrocious limitations that disabled their normal development.

All sick children, especially, should have their little systems and delicate powers abundantly sustained with helpful foods, and with whatever wholesome they can enjoy, when battling with the crippling depressions of disease. In their growing months and years, medicine-stuffing without a broadened and welcomed supply of varied diet, is a mockery of discretion, a sin against nature. Whatever the nature of complaint, ripe delicious fruits and melons are invaluable aids to medicines in refreshing a jaded system and restoring nutritive functions. Again, food and nutrition of cells and tissues are the great natural anodyne for restlessness in underfed cases. A sense of need of nourishment is insufferable, even when appetite has deserted and digestion seems suspended. Even the flesh of a ripe peach, the juice of a wine-bearing grape, may coax into action the refreshed digestive process more successfully than would a glass of milk or a platter of porridge when the stomach is sick.

THE TREND OF MODERN PHTHISIOTHERAPY.

On all hands one sees in the present-day treatment of consumption a tendency to consider the constitution of the individual rather than the local lesion, which in this disease is generally pulmonary. There is here really a swinging of the pendulum back to Bodington and Brehmer, back to the therapeutics which preceded Koch's discovery.

It is indeed an odd phase of medicine—that, the specific cause of consumption having been so brilliantly discovered, no means designed essentially for its destruction and elimination has been successful. Nay, worse than this, it is now generally agreed that such therapeusis has been actually baneful. And the statement is true of practically everything of this nature that has been tried since 1882, when the tubercle bacillus was brought to light—inhalants, sprays, eudotrachial injections, expectorants, creosote and all the other nauseating "antiseptics." There are several very cogent reasons why drugs cannot destroy bacilli in the animal body. Among these we refer to the physical law of the diffusion of gases and to the fact that the lungs respire tidal, complemental and residual air.

There are those who, like Duckworth and Bulstrode, have always, through the two decades past, held that the discovery of the bacillus has not materially changed the tuberculosis situation; that this bacillus is but an index of a disease which is the resultant of many factors. And this no one doubts to-day. Just as we consider that typhoid fever is not an affection of the small intestine, but a general disease, which has its acutest manifestation in Peyer's patches, or that Bright's is not essentially a kidney disease, so have we concluded that tuberculosis is a systemic disease which manifests itself especially in the lungs.

We think then, with Hutchinson (*Medical Record*, April 29, 1905), that it were best to treat the constitution of the consumptive, and "let the lungs alone." Particularly does he decry (and we believe he is correct), loose and unregulated "pulmonary gymnastics." At Saranac Lake Trudeau's patients *rest;* gymnastics are eschewed. Forced breathing may drive the infectious material still deeper into the lung parenchyma; regions as yet unaffected may thus become involved. New-formed connective tissue, in which the healed tuberculous foci are imbedded, may be broken up, and such steps as nature may be already taking through pleuritic or other adhesions to put the damaged parts at rest may be interfered with. Moreover, it is not logical to think of "developing" the chest of a consumptive by gymnastics. These sufferers, as a rule, have round, not flat chests. Another point is that the circulation is essentially at fault in tuberculosis; the best guide in this disease is the pulse. Here we have harked back again to Brehmer, who found the small heart characteristic of the tuberculous.

The safest therapeusis, in the present stage of this branch of our science, is then as follows: The disposition of the infective material. Rest, particularly, with a temperature of 100°; and bed inexorably if it reaches 101°. Fresh air throughout the twenty-four hours, and every possible moment of sunshine. As much nutritious food stuffs as can be assimilated or metabilized. And finally, such medicaments as the physician may direct according to the systemic requirements in each case: for in one patient the circulation may need a drug, in another the stomach, in another the excretory apparatus, and the like.

ALCOHOLIC NOSTRUMS.

THE internal revenue department of the federal government purposes to put in force a very just measure; it will tax nostrums containing alcohol, just as it does brands of whiskey. Lest the reader considers this a harsh measure he should peruse the list of Tonics and Bitters which the Massachusetts State Health Department examined for the purpose of ascertaining the percentage of alcohol in each. Among these, Parker's Tonic, "purely vegetable," recommended for inebriates, contained 41.6%; Atwood's Quinine Tonic Bitters, 29.2%; Boker's Stomach Bitters, 42.6%; Drake's Plantation Bitters, 33.2%; our old friend Hostetter's Stomach Bitters, 44.3%; Kaufman's Sulphur Bitters, "contains no alcohol," does in fact contain 20.5% alcohol and *no* sulphur. Hoofland's German Bitters," entirely vegetable and free from alcoholic stimulant," 25.6%; Richardson's Concentrated Sherry Wine Bitters, 47.5%; Job Sweet's Strengthening Bitters, 29%; Warner's Safe Tonic Bitters, 35.7%; Paine's Celery Compound, 21%; and many more to the same effect. When we reflect that the dose recommended upon the labels of these preparations varies from a teaspoonful to a wineglassful, and that the frequency also varies from one to four times a day, "increased as needed," it must be evident that many a pious old humbug (without regard to sex) must from time to time enjoy a "bender" such as would excite the sincere envy of many an honest, unpretentious, out-and-out toper. The proposed measure, if considerably enforced, will certainly bring grief to many thirsty residents of prohibition States. Such medicines, it is declared, are said to have immense sales in prohibition communities. One advertised compound with a high percentage of alcohol (nearly as high as that of whiskey) has achieved a sale of nearly 300,000 bottles in one year in one New England (prohibition) State. Hereafter the harmless remedy, the unfailing catarrh cure, the pure vegetable reinvigorator will be taxed precisely as whiskey is, according to the percentage of alcohol. The manufacturer must pay the tax required of manufacturers of spirits, and the druggist who sells these goods must take out a retail liquor dealer's license. So general has become the consumption of the "medicines" here referred to, especially in sections where straight whiskey is difficult to obtain, that resulting cases of intoxication are known by the name of the medicine causing it. There is said, moreover, to be a very large sale of these "drugs" to Indians on reservations, where liquor is prohibited, and the red man who is observed to behave as one with a "skate on" is characterized as having indulged unduly in some "sure cure for lame back," or "Dr. Quack's Celebrated Kidney Cure." Presumably the Indian Commissioner must follow the ruling of the internal revenue department, so that one of the most prolific sources of revenue to the producers of blends of cheap whiskey and flavoring extracts will be destroyed.

The ruling of the Commissioner of Internal Revenue is a reversal of practice. Heretofore the sworn statements of manufacturers as to ingredients has been accepted. Hereafter this will be determined, not by the declaration of the manufacturers, but by the Government chemists, who will go into the open market and buy proprietary articles under suspicion. By the first of December a list will be made, so that the country grocer who keeps a shelf in general family medicines will learn those which he can carry only by becoming a liquor dealer within the meaning of the Federal law. The great strength of the patent medicine abuse lies, in fact, in the value of its advertising to country newspapers. Contracts have been made which would become void on the passage of the pure food laws. It has long been the aim of the reformers of these abuses to require publicity for the formula so that opiates and other dangerous mixtures might be revealed. The influence of country advertising has thus far impeded all such legislative effort.

It is a pleasure to note, in this relation, that Dr. H. W. Wiley, the chief of the Bureau of Chemistry at Washington, has been instructed to co-operate with The American Medical Association in its crusade against the sale of impure and fraudulent patent medicines. This order issued to Dr. Wiley is in line with the recent activity of the Post Office Department, in issuing fraud orders against several concerns which advertised their products to contain properties not disclosed in the chemical analysis. This co-operation with physicians (the Association is 47,000 strong) is a most welcome innovation.

MERCIFUL HOMICIDE.

THIS venerable topic of discussion among medical and huminatarian circles is again being ventilated. This time a woman, Miss Helen Hall, has started the ball rolling at a meeting of the American Humane Association in Philadelphia, the proposition being that immediate slaughter should be dealt out to those unfortunate enough to be mortally wounded, or to be suffering with such painful diseases as physicians would consider incurable.

This subject, we repeat, has often come up for discussion in medical circles; and the conclusion has almost invariably been reached by physicians taking part, that to cut short a human life, is, except in one instance, absolutely unjustifiable. The exception is the destruction of the life of the fœtus, when that of the mother is endangered. And even here, a very large religious sentiment, mostly among our brethren of the Roman Catholic faith, requires that equal solicitude shall be shown for the infant, on the ground that its soul is as fully entitled to be conserved as is that of the mother.

Apart from humanitarian considerations, the main objection of medical men to merciful homicide, is one that does them great honor; it is on the ground of their own liability to error in pronouncing a case necessarily fatal. Every experienced and tried physician has found that there have been cases within his knowledge which have demonstrated that prognosis in medicine may be as illusory as prophecy in the general affairs of life. How often has a patient with Bright's, "doomed to death within a couple of years," or a consumptive, "good for but a few months more," lived to attend the funeral of the prognosing physician.

Miss Hall's stand is very like that taken some ten years ago by Mr. Albert Bach before a Medico-Legal Congress held in New York City. This gentleman, a prominent member of the bar, declared that there were cases, not only in which suicide was morally justifiable, but also in which the ending of human life by physicians was not only morally right, but an act of humanity. His views, however, were vigorously combated by the medical men present, principally upon the grounds just set forth. Miss Hall's views are now no less objectionable than were those of Mr. Bach. She declares: "For the past two years I have always carried a phial of chloroform with me when riding on trains for use in occasions of emergency, as I was brought to consider this subject through a horrible experience." For ourselves, we should not like to be on a train with this lady, with the possibility of being, in addition to any hurt we might receive, the subject of her "humane," but inexperienced manipulation of an anæsthetic.

The law, points out the New York *Sun* (Oct. 15, 1905), recognizes no right to take life from motives of humanity, except in the instance we have cited, and relates instances in point: To shorten life is to take life. Indeed, all that a murderer does in killing a perfectly healthy human being, is to shorten that person's life. The courts, both in England and in this country, have repeatedly held that he who accelerates the death of another is guilty of felonious homicide. Even in the case of the birth of excessively deformed infants, the English courts have refused to hold that the attending physician was justified in taking the life of an infant, although the malformation might be so great as to make it a monster in a legal sense.

Heart Strain in Growing Boys is considered by A. Lambert (*Med. Chronicle.*, February, 1905), who observes that the passage from physiologic to pathologic distension is abrupt. From protoplasmic inadequacy the muscle fails to respond to increased functional stimulus and nutritive supply. Fibrous hyperplasia and changes in the muscle fibre follow. Thus are explained the symptoms of overstrain produced by mental shock, direct violence or illness. Lambert doubts if the heart of the truly healthy boy ever breaks down as the result of athletics as practised in the great schools; there must have existed some cardiac insufficiency either inherent or due to some such condition as anæmia or recent influenza. Tendency to recurrence is common to all cases. There may or may not be constant symptoms or signs of inefficiency. The prognosis must be guarded and every return to active exercise looked upon as an experiment. The heart may prove strong enough for a life work that does not entail great stress but with not sufficient strength to stand an anæsthetic or som eacute illness. A good muscle may compensate for a faulty valve, but there can be no compensation when the myocardium itself is at fault.

BIBLIOGRAPHICAL

The Microtomist's Vade-Mecum.—A Hand-book of the Methods of Microscopic Anatomy. By Arthur Bolles Lee. Sixth Edition. Philadelphia: P. Blakiston's Son & Co., 1905. Pp. 358. Octavo; price, $4.00.

This standard text-book comes to us in its sixth edition, with a great deal of new matter added, the whole so condensed as not to increase the bulk. The new chapters must be read, in order to obtain a proper comprehension of the book in its present form. The work is so well and popularly known by the profession, that it needs only the announcement of a new edition.

Carbonic Acid in Medicine.—By Achilles Rose, M.D., with the portraits of Van Helmont, Priestley and Lavoisier. New York: Funk & Wagnalls Company, 1905. 12mo; pp. 259. Price, $1.00.

The subject of this little volume is well worthy the effort of our distinguished author, and he has made the most of it by bringing together all that is known about it, and by adding the results of his own investigations.

The observations on the value of carbonic acid in dysentery, rhinitis, vomiting in pregnancy, and the solution of the problem of curing rectal fistula without operation, cannot fail to interest and instruct the reader. This practical work is worthy a place in the clinician's library.

The Elements of Homœopathic Theory, Materia Medica, Practice and Pharmacy.—Compiled and arranged from Homœopathic text-books by Drs. F. A. Boericke and E. P. Anshutz. 196 pages. Cloth, $1.00. Postage, 5 cents. Philadelphia: Boericke & Tafel, 1905.

A handy little book for homœopathic physicians.

Exercises in Practical Physiology.—By Augustus D. Waller, M.D., F.R.S. London and New York: Longmans, Green & Co.

This little brochure contains the exercises and demonstrations in chemical and physical physiology suited to the class-room, and every student should have a copy.

The first chapter is devoted to the blood, the second to the circulation, then salivary digestion, the proteids and gastric digestion, and fat and pancreatic digestion are considered. Then follows a chapter on milk, one on urine, and the volume closes with the subject of respiration. The text is concisely and clearly stated, in a manner to be most useful to the student.

Progressive Medicine, Vol. III., September, 1905. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 298 pages, with 22 engravings. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00; carriage paid to any address. Philadelphia and New York: Lea Brothers & Co., Publishers.

The divisions of medicine herein discussed are: (1) Diseases of the Thorax and Its Viscera, by Prof. Wm. Ewart; (2) Dermatology and Syphilis, by Gottheil; (3) Diseases of the Nervous System, by Wm. G. Spiller, and (4) Obstetrics, by Richard C. Norris.

Each one of these chapters has been treated by its author in consonance with the general aims of the series, but with an individuality which gives it a special and original interest and importance. The subject of thoracic diseases, which has come to be considered as almost barren of any further important results, since the masters of modern medicine, Trank, Skoda and Bamberger, had practically exhausted the possibilities of auscultation and percussion, has yielded a rich crop of information to a fresh ploughing. Dr. Ewart takes up the newer methods of examination of the heart, in especial radioscopy, and indicates its bearing on the results of the older methods of percussion and of auscultatory percussion. The workings of the organ, and the co-ordination of its parts, have received an entirely new light from the novel sphygmographic methods of Mackenzie, which permit of a far closer analysis than formerly of the action of digitalis and the other cardiotonics. It seems, in virtue of this work, as though the indications for and against these agents—so potent for ill as well as good—would at last become endowed with the precision so urgently required in practical work. The monometric and plethysmographic methods, as well as the recent results of the older methods, have not been neglected.

The general get-up of the book, the paper, print and indexing, are of a solid and enduring quality, and make its use not only profitable but pleasurable.

Practical Massage in Twenty Lessons.—By Hartvig Nissen, Instructor and Lecturer in Massage and Gymnastics at Harvard University Summer School. Author of Swedish Movement and Massage Treatment, etc. With 46 Original Illustrations. 168 pages. 12mo. Price, extra cloth, $1.00, net. F. A. Davis Company.

This little book is the result of the author's thirty years experience as a masseur and teacher. His method is a combination of what he has found to be the best and most useful "manipulations" and "movements" in other systems as well as his own. The book will be found a practical help to those who use this treatment.

A Text-Book of the Practice of Medicine.—By James M. Anders, M.D., Ph.D., LL.D., Professor of Medicine and of Clinical Medicine at the Medico Chirurgical College, Philadelphia. *Seventh edition, revised and enlarged.* Octovo of 1297 pages, fully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $5.50, net; sheep or half morocco, $6.50, net.

A sale of over 22,000 copies and the attainment of a seventh edition seems sufficient recommendation for any book; in fact, Anders' Practice does not now need any recommendation—it is too well known. As in the former editions, particular attention is bestowed upon inductive diagnosis, differential diagnosis, and treatment. Regarding differential diagnosis, we notice with much satisfaction that the many diagnostic tables of simulating diseases have been retained. The clinical value of these tabulated points of distinction is beyond cavil. Numerous new subjects have been introduced, among which are: Rocky Mountain Spotted Fever, Examination of Patients for Diagnosis of Diseases of the Stomach, Splanchnoptosis, Cammidge's Test for Glycerose in the Urine, and Myasthenia Gravis. Certain other individual affections have been entirely rewritten and important additions have been made to the diseases which prevail principally in tropical and subtropical regions. The seventh edition maintains the reputation of the work, and continues to keep it in the very front rank of works of its class.

A Text-Book of Diseases of Women.—By Barton Cooke Hirst, M.D., Professor of Obstetrics, University of Pennsylvania. *Second edition, revised and enlarged.* Octavo of 741 pages, with 701 original illustrations, many in colors. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $5.00, net; sheep or half morocco, $6.00, net.

Dr. Hirst may well be congratulated upon the publication of such a work as this, a second edition of which has just appeared. Written on the same lines as his "Text-Book of Obstetrics," to which it may be called a companion volume, it gives every promise of attaining a similar success. The palliative treatment of diseases of women and such curative treatment as can be carried out by the general practitioner have been given special attention, enabling physicians to treat many of their patients without referring them to a specialist. Indeed, throughout the book great stress has been laid upon diagnosis and treatment, and the section devoted to a detailed description of modern gynecic operations is without doubt the most clear and concise we have yet read. In this second edition the revision has been thorough, introducing, however, only such matter as promises or has been demonstrated to be of permanent value. Forty-seven new illustrations have been added and thirty of the old ones replaced, the work now containing a collection of seven hundred and one beautiful original illustrations, many of them in colors. The book can be highly recommended.

Abdominal Operations.—By B. G. A. Moynihan, M.S. (London), F.R.C.S., Senior Assistant Surgeon to Leeds General Infirmary, England. Octavo of 695 pages, with 250 original illustrations. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $7.00, net.

This elaborate work devoted exclusively to abdominal operations common to both sexes, will be welcomed by the profession for the reason that the details of the operations are given in such clear and exact language as well as the actual modus operandi of the various operations, the clearness of description being a strong point in the text. The author's reputation is international, his work is stamped with the authority of great experience, so that we may predict for it a place at the top.

Peritonitis and appendicitis, the latter of such present importance, have been accorded unusual space in a work of this kind; and the subject of chronic gastric ulcers is also excellently detailed. Throughout the entire book numerous cases have been quoted from both the author's own practice and those of other distinguished surgeons. The beautiful illustrations are all new and have been drawn especially for this work under the author's personal supervision. The book is a valuable production and adds greatly to the reputation of its eminent author.

Atlas and Epitome of Diseases of the Skin.—By Professor Dr. Franz Mracek, of Vienna. Edited, with additions, by Henry W. Stelwagon, M.D., Professor of Dermatology, Jefferson Medical College, Philadelphia. *Second edition, revised, enlarged, and entirely reset.* With 77 colored lithographic plates, 50 half-tone illustrations, and 272 pages of text. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $4.00, net.

It is with much pleasure that we welcome the second edition of Professor Mracek's admirable hand-atlas. That the work is a success and of practical usefulness needs no further proof than the demand for a second edition, not only in America but also in Germany. The author has added some twenty-six new plates, fifteen of them colored lithographs, and all of exceptional merit. The text he has thoroughly revised to include the most recent dermatologic advances, especially along the line of histopathology. As in the first edition, there is evidence of the conscientious editorial work of Dr. Stelwagon, many additions being interspersed throughout the text.

A Manual of the Practice of Medicine.—By A. A. Stevens, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania, and Lecturer on Physical Diagnosis at the University of Pennsylvania. *Seventh Edition, Revised.* 12mo of 556 pages, illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Flexible leather, $2.50, net.

There is no work on practice of the same size containing more practical information concisely stated than this handy little book. The author's epigrammatic style is no doubt the result of his extensive experience in the lecture room, enabling him to group allied symptoms in such a manner that they can be easily retained in the mind of the student. By a judicious elimination of theories and redundant explanations he has brought within a small compass a complete outline of practice of inestimable value. For the student, the practitioner, and the nurse as well, there is none better.

Lectures Upon the Principles of Surgery.—With an Appendix Containing a Resume of the Principal Views held Concerning Inflammation. By Charles B. Nancrede, M.D., LL.D., Professor of Surgery and of Clinical Surgery, University of Michigan, Ann Arbor. *Second edition, thoroughly revised.* Octavo of 407 pages, illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $2.50, net.

The difficulty with the great majority of works purporting to treat of the principles of surgery is that they attempt to be too comprehensive, so marring their usefulness to the undergraduate. Dr. Nancrede, whose work is now before us, has studiously aimed to overcome this objection, and has met with unqualified success. His work is not a new one, but for some years has held a place of first importance amongst medical text-books. The appearance of this edition, therefore, will be a source of much gratification to those who have found the work so valuable. Much has been added regarding the significance of leucocytosis, the treatment of sepsis and of tetanus, and the after-effects of general anesthesia and spinal anesthesia. By rewriting some portions and by greatly modifying others, Dr. Nancrede has brought his excellent work to a degree of perfection only attainable by the careful observation and study of a rich clinical experience.

A Text-Book of Clinical Diagnosis.—By Laboratory Methods. For the use of Students, Practitioners, and Laboratory Workers. By L. Napoleon Boston, A.M., M.D., Associate in Medicine and Director of the Clinical Laboratories at the Medico-Chirurgical College, Philadelphia. *Second edition, revised and enlarged.* Octavo of 563 pages, with 330 illustrations, including 34 plates, many in colors. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $4.00, net; sheep or half morocco, $5.00, net.

It must be a great gratification to an author when two editions of his work are required in one year. From such a reception it is evident that Dr. Boston's Clinical Diagnosis fills a demand. In this new second edition many new subjects have been added, including Biff's New Hemogelometer, Ficker's Reaction, an illustrated description of the Leishman-Donovan Bodies, Ravold's Test for Albumin, Cammidge's Test for Glycerin, and Cipollino's Test. The subjects of cystodiagnosis and inoscopy are given more extended consideration, the practical usefulness of these methods having been clearly demonstrated. Throughout the text it has evidently been Dr. Boston's aim to emphasize in progressive steps the various procedures of clinical technic, illustrating such steps whenever possible. An unusual amount of space is given to the consideration of animal parasites, malarial and other blood parasites, skin diseases, transudates and exudates, and the secretions of the eyes and of the ears.

A Compend of Histology.—By Henry Erdmann Radasch, M.S., M.D., Associate in Histology and Embryology in the Jefferson Medical College, Philadelphia, etc. With ninety-eight illustrations. Philadeplhia: P. Blakiston's Son & Co., 1905. Pp. 304. Price, $1.00.

This adds another to the list of excellent quiz-compends issued by Blakiston. The volume is more complete than some and the text is clear, concise and up-to-date. The chapter on Technic is sufficient for routine histologic and pathologic work. There is no question as to the value of the book to students.

A System of Physiologic Therapeutics.—A Practical exposition of the methods, other than drug-giving, useful for the prevention of disease and in the treatment of the sick. Edited by Solomon Solis Cohen, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College; Physician to the Jefferson Medical College Hospital, and to the Philadelphia Jewish and Rush Hospitals, etc. Volume VII., Mechanotherapy and Physical Education, including Massage and Exercise. By John K. Mitchell, M.D., Fellow of the College of Physicians of Philadelphia; Physician to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, etc.; and Physical Education for Muscular Exercise, by Luther Halsey Gulick, M.D., Director of Physical Training in the Public Schools of Greater New York, etc. With special chapters on Orthopedic Apparatus by James K. Young, M.D.; on Corrective Manipulation in Orthopedic Surgery, by H. Augustus Wilson, M. D.; and on Physical Methods in Ophthalmic Therapeutics by Walter L. Pyle, M.D. With 229 illustrations. Pp. 420. Octavo. Volume VIII.—Rest Mental Therapeutics Suggestion. By Francis X. Decrum, M.D., Ph.D., Professor of Nervous and Mental Diseases in the Jefferson Medical College of Philadelphia; Neurologist to the Philadelphia Hospital, etc. Philadelphia: P. Blakiston's Son & Co. 1904. Pp. 332. Octavo.

The general title of these volumes suggest but imperfectly the scope and the character of their contents. The main theme in Vol VII. is that treated by Dr. Mitchell, but the other subjects need full consideration in a work of this kind and their relations with the use of exercises and manipulations of the tissues are sufficiently evident to justify the association. An an example of this intimate connection, the subject of Spinal Curvature may be cited. The origin of this affection frequently may be traced to faulty position at the school-desk, this in turn sometimes depending, in part at least, upon ocular defects. Educational gymnastics and correct glassing may prevent the occurrence of curvature, while massage, remedial exercise, orthopedic apparatus and corrective manipulations all play a part in the treatment of its various forms and degrees.

Another example may be drawn from headache, which if it is sometimes to be treated by massage, may be prevented in other cases by the exercise that restores digestive tone or improves faulty metabolism, while in still other instances it disappears when eye-strain is corrected. For the relief of eye-strain and the manifold symptoms to which it may give rise, not only refractive correction is needed, but often suitable exercises must be prescribed for the ocular muscles.

Exercise as a therapeutic method has suffered so much discredit from the wild theories and the fantastic and exaggerated overstatement of its value by excited enthusiasts, that any one who would write usefully on it must constantly endeavor to make his work not only precise and scientific, but modest and rational in its claims and practical in its methods. It is proper to say that there is almost no form of application of exercise or manipulation to the treatment of disease or to the maintenance of health considered in this volume in which the authors have not had practical experience to guide them.

Volume VIII. is largely devoted to the important subject of Rest in physiologic therapeutics—often called "Rest Cure."

The author has endeavored to present the subject in a systematic manner. Simple physiologic truths and clinical facts have, so far as possible, been placed side by side, together with logical deductions in regard to treatment. In the section on mental diseases the author has considered the question of treatment in all its phases, laying stress on the importance of simple physiologic methods, while to medicines has been assigned a secondary value.

The concluding section of the book deals with a topic of the greatest moment in the treatment of nervous and mental diseases, and which has an important bearing upon the management of the sick in general. The author discusses the influence of the mind and its utilization in medicine, under the head of "Suggestion," in its various forms. The facts have been impartially set forth, submitted to scientific analysis and the conclusions frankly stated, avoiding as far as possible the purely theoretic consideration. These volumes will be found of inestimable value to the clinician who does not confine his treatment to the mere use of drugs.

The strenuous life was recently realized by a "New York specialist," states the lay press, who while riding at night in the country near Mt. Vernon thought he saw a dead man lying in the road. He excitedly rushed to the nearest telephone and asked to have a police patrol wagon sent, believing the prostrate man to have been murdered. When the police arrived the supposed dead man was gone; whereupon these agents of the law, determined not to be without a prisoner, decided that the physician was intoxicated and "pulled him in" on a charge of having sent out a false alarm. It developed later that the man who had been lying in the road was really drunk and had walked away before the coming of the police.

RETROSPECTIVE THERAPEUTICS

THE ETIOLOGY AND ELIMINATION OF DIABETES.*

Contrary to all accepted authority, the author of this remarkable paper contends that *Diabetes is never a Primary disease;* it is merely, he declares, a frequent concomitant symptom or sequela of either an inherited or acquired condition of the system, which *is* primary and which is as amenable to *appropriate treatment* as any ordinary disease.

The unsuccessful and unsatisfactory results, which, up to the present time, have attended all proposed methods of treatment, is attributed to the fact that its pathogenesis has not been properly understood.

Derangements of the liver, the kidneys, the nervous system and the spleen have, each, in turn, been considered the offending cause of this most serious affection, and there is probably no case which does not exhibit a lesion of one or more of the organs mentioned. But as the "immediate cause of diabetes is something which interferes with the proper oxidation of certain elements of food, and as the presence of sugar in the urine occurs from, or is accompanied with, lesions in organs differing greatly in structure and function, may there not be some cause which, owing to an inherent or acquired weakness of one or the other of the organs mentioned, is able so to interfere with its normal action that oxidation is inhibited to a degree sufficient to induce the affection we are considering?"

The author not only believes this view of causation to be correct, but he is satisfied that he has discovered the common cause—"the disturbing element which is responsible for the existence of every case of diabetes, irrespective of the nature or location of the lesions to which it most directly relates."

"This common and potent cause is syphilis—that Nemesis of evil-doers, which ruthlessly invades every organ and tissue of the body and with its blighting touch vitiates every secretion and deranges every function."

"This discovery is not the forced assumption of a theory; it is one of the results of the observations and investigations begun twenty-five years ago and carried on for a long period, for the purpose of discovering the cause of interstitial gingivitis, a suppurative disease of the alveolar process."

"I found that a great many of those afflicted with gingivitis also suffered from diabetes. Finally, I discovered that in all patients affected with interstitial gingivitis, of systemic origin, syphilis, either inherited or acquired, could be traced, and that in spite of careful and thorough surgical and dental treatment, a permanent cure could not be affected until the patient was subjected to a course of anti-syphilitic treatment."

The diagnosis cannot always be satisfactorily made from the history of the case, but "fortunately, there are ways of determining the existence of syphilis independently of any history the patient may give. Syphilis never invades the system unaccompanied by tell-tale signs of its presence. The most important and reliable of these signs are, first,* the eschar of Curtis, which may be seen upon the surface of the gums, cheeks, tonsils, pharynx, and, sometimes, upon the cornea and sclera, and, second, the syphilitic spores which the microscope reveals in the freshly-drawn blood. The latter sign is of special importance, because the presence of the spores is not only positive evidence that the suspected disease exists, but their disappearance, later, under the influence of appropriate treatment, is indisputable proof that the specific poison has been eliminated, and, consequently, that the treatment may be safely discontinued."

"Since diabetes is never a disease *per se* but merely an occasional accompanying symptom or sequela of syphilitic infection, the best treatment is that which will most readily and thoroughly eliminate the specific poison which caused it."

The most reliable and satisfactory treatment is that supplied by electro-ozonation. A brief outline-description of the apparatus which supplies electro-ozone is given. It "consists, practically, of an ozone generator fed by a high tension coil which multiplies the voltage of the commercial current a million or more times, and practically eliminates all amperage. To the generator is attached brushes or corrugated wires from which ozone is generated in large quantities, and, by a wire coil, a Geisler or other vacuum tube is connected through which ozone is forced into and through the body. Connected with the apparatus is an electric cabinet which generates light and heat coupled with ozone."

Although treatment by electro-ozonation, alone, is able to eliminate every vestige of syphilitic taint from the system, still, in order that the patient may have the benefit of the eliminative effects some drugs are able to produce, such alternatives as mercury and iodide of potash and such tonics as iron and veratum viride, are generally prescribed in addition.

While the doctor is convinced that anti-syphilitic treatment by drugs alone is sufficient, in many cases, to eradicate both syphilis and diabetes in their initial stages, he is satisfied that a large percentage of such cases is incurable without the aid afforded by the ozone current.

During the past seven years, twenty cases have been treated by the method advocated. "All of them had either acquired or inherited syphilis. With the exception of two, all were restored to health with every symptom of diabetes eliminated. Of these exceptions, one was lost sight of, and the other was suffering from epithelioma. The average time required to bring about this result was about three months. The sugar usually disappeared from the urine by the end of the second month. In only one of the cases successfully treated has there been any return of the sugar or of any other symptom. In this case, after several days of high living and alcoholism, a mere trace of sugar was discovered. "Otherwise, the patient who, when first treated, was invalided and whose urine contained nine per cent. of sugar, is now in robust health."

This result, in the opinion of the doctor, is sufficient not only to substantiate his claim that he has discovered the real cause of diabetes, but also to demonstrate that this affection need no longer be considered incurable.

In regard to the restrictions of diet so irksome to the patient but so universally believed to form an indispensable part of all successful treatment, the doctor, under the method of treatment he pursues, finds them entirely unnecessary.

"Allowing," he says, "that the sugars and starches are the food elements from which the system derives the greater part of its vital energy, it seems to me that their restriction is more prejudicial to an invalid than to a person in a state of health. Under no circumstances do I enjoin my patients from using the carbo-hydrates freely, and it is to this fact that I attribute their comparatively rapid recovery; for so great is the nutritive power of electro-ozonation over the processes of digestion, assimilation and elimination, that, under its influence, the system is able to derive all of the nutritive benefits these highly important foods are able to bestow."

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*An abstract of a paper read before the American Electro-Therapeutic Association by G. Lenox Curtis, M.D., New York.

* This infallible diagnostic sign of syphilis was discovered by me over fifteen years ago. I fully described it in a paper entitled "Syphilitic Localosis Alveolaris," which was read before the American Medical Association in 1898.

In conclusion, the doctor urges physicians "to test this method of treating diabetes." If electro-ozonation is not available, use the ordinary anti-syphilitic treatment; but if the two can be used conjointly, the desired results will be not only more satisfactory, but more speedily attained.

Angina Pectoris, a dreadful though happily somewhat rare disease, is characterized by sudden paroxysms of agonizing pain over the cardiac region, extending into the arms and up the neck. A fear of impending death accompanies this "breast pang," a condition not a disease in itself, and one symptomatic of a number of morbid conditions, such as insufficiency of the aortic valves, an adherent pericardium. arterio-sclerosis involving especially the two coronary arteries and consequently producing degenerative changes in the myocardium. Post-mortem examination occasionally reveals chronic aortitis at the roots of the aorta, which is associated with some aneurismal dilatation of that vessel. This must interfere with the circulation of blood through the coronary arteries. The *Practitioner* (June, 1905) describes various types of angina. *True* angina having the grave symptoms above mentioned, is associated with local morbid conditions of the heart or of the aorta itself. The dreadful pain is here no doubt due to the involvement forming the superficial and deep cardiac plexuses, which lie in relation to the arch of the aorta. Of *pseudo* angina there are two types—the neurotic, and the toxic. The neurotic group chiefly affects women who suffer from functional or neurasthenic or vasomotor disturbances, such as sudden coldness and numbness in the fingers and toes, pain in the praecordium and faintness. The toxic group have strong tobacco or tea or coffee as causative agents. The treatment of pseudo angina must depend upon the cause; after this is removed little else is required.

Sufferers from true angina must live very quiet lives, free from all worry and excitement; and there must be no great or sudden muscular exertion. The stomach must not be overloaded; dyspeptic conditions must be properly treated; the carbohydrates must be diminished in the food. During the attack the patient must lie down quietly; must inhale slowly (for about five minutes) several minims of amyl nitrite from a crushed glass capsule, which is encased in cotton wool and silk. If this is not effective the inhalation of chloroform is indicated. And if this does not serve several minims of Magendie or liquor morphinæ acetatis must be injected. Between the attacks nitro-glycerine is indicated, or liquor trinitrini may be given in minim doses in a little brandy three times daily; or sodium nitrite in one or two grain doses. If the angina be associated with general arterio-sclerosis, especially if connected with gout, large doses of the iodides are indicated—ten to fifteen grains three times a day; blood pressure may thus be lowered. An occasional purge is essential where there is high arterial tension. Patients suffering from angina pectoris may die suddenly without manifesting any pain.

Diagnostic Value of Laryngeal Paralyses.—Many of these lesions cannot be diagnosed or even suspected without the use of the laryngoscope (N. Bonwell, *Lancet,* June 3, 1905). In abductor paralysis there may be no disturbance of vocalization; here the affected cord lies in the median line, and during phonation the sound cord adducts to meet it and the larynx appears normal. But on inspiration the affected cord remains stationary while the sound cord is drawn outward and backward. The voice is not altered, but there is some dyspnoea on active exertion—so severe sometimes in children as to require tracheotomy. In bilateral paralysis the cords are drawn closer together on inspiration and dyspnoea accompanied by stridor is a marked symptom. Severe paroxysmal exacerbations may occur at any time and prove fatal; so tracheotomy is indicated as a precautionary measure. Phonation is good but has a breathless character. The causative lesion of the paralysis may be situated in the medulla; or at the base of the brain; or in the vagus; or in the recurrent laryngeal nerve. In the first two of these conditions neighboring nuclei are prone to be affected as well, so that there is usually concomitant paralysis of the soft palate, uvula and pharynx. Persistently frequent pulse indicates bulbar disease. Bulbar paralyses are frequently bilateral, tabes dorsalis being the commonest cause. Syphilitic nuclear disease, gummata at the base of the brain, and syphilitic pachymeningitis are also common causes of abductor paralysis. Disseminated sclerosis seldom produces paralysis. Of peripheral causes neuritis is a frequent factor; it may be toxic (lead, alcohol, arsenic) or infective (diphtheria, typhoid, influenza, etc.). Paralysis from involvement of the vagus is usually due to compression of the nerve from aneurism, enlarged glands (usually tuberculous) and cancer of the oesophagus. Occasional cases are mediastinal growths, pulmonary consumption, goitre, etc. Aneurism is the most frequent cause of laryngeal palsy, inducing glottic spasm and the "brassy" cough which later becomes wheezing in character. Left vocal cord paralysis may be the earliest sign of aneurism. Tuberculosis acts either by pressure of bronchial or tracheal glands, or by involvement of the nerve in infiltration at the apex of the lung. The association of laryngeal palsy with a thyroid tumor, though suspicious, is not conclusive proof of malignancy. Adductor palsies always affect the phonatory function. They are usually bilateral and not due to organic disease of the nerve path. Functional aphonia manifests hysteria (both in men and women, coming on suddenly and disappearing as rapidly), however, anything which makes phonation difficult (debility, thickening of the cord, laryngeal catarrh) predisposes to hysteria. Unilateral adductor paralysis is very rare.

Quinine and inflammatory processes are dwelt upon by *The Therapeutic Gazette* (Aug. 15, '05). It is declared that this drug possesses greater antiphlogistic properties than mercury, aconite, veratrine viridi or opium. Quinine exercises some influence upon the movements of the white blood corpuscles; and the use of this drug in ordinary medicinal quantities diminishes the migration of the leucocytes through the blood vessel wall and perhaps causes actual diminution in the number of leucocytes (Binz), F. T. Fitch (*Yale Med. Jour.*, June, '05), finds upon laboratory research that in animals poisoned with quinine the leucocytes in the blood are not only decreased but that their ameboid movements are arrested. This diminution is usually in the polymorphonuclear cells—there is a slight increase in the lymphocytes. These observations in no way prove that it is in this way that quinine does good in inflammatory processes; they do, however, point a way by which we can explain the empirical use of quinine in a large number of conditions.

The pelvic condition of primiparæ when discharged is often sadly neglected. Many cases of uterine prolapse in aged women, many of needless suffering and illness in the latter decades of female life are due to neglect of post partem condition. A. M. Judd (*Brooklyn Med. Jour.*, May, '05) has examined twenty-four primiparæ at the time when physicians consider themselves justified in allowing them to pass from his observation—usually within two weeks, and in tenement house practice at the end of a week after delivery. This period is much too short: various injuries to the genital tract may have been incurred, which may not have been treated and perhaps not observed; delayed involution increasing the danger of infection; the formation of scar tissue diminishing the elasticity of the parts requisite for subsequent labors. In thirteen of Judd's cases vaginal ulceration were present, resulting from mucous tears which are generally considered too small to require suturing. Twenty of the twenty-four had lacerations of the cervix with erosions, which were most extensive on the anterior lip. Measurements within the uterus showed that laceration had interfered materially with involution. "The non-repair of these injuries is a fruitful source of income to the gynecologist." Judd repairs small mucous tears immediately after delivery; as also lacerations of the vaginal walls and perineum. Lacerations of the cervix had best be repaired within a period of from seven to twelve days.

Vincent's Angina is described by Vincent himself (*Lancet*, May 13, '05). The term he applies is "angina with spirilla and fusiform bacilli." The ages between eight and ten and eighteen and thirty are those most prone, but the disease may occur at any period. All races, in all countries, may be affected. It is more frequent among alcoholics, those who use tobacco and those who have carious teeth. It is sometimes associated with ulcero-membranous stomatitis, which is often due to the same microbes. The angina may appear at the time of second dentition and with the eruption of the wisdom teeth. The influence of tissue conditions is shown by its frequency in the anemic, the syphilitic and the tuberculous. The disease is inoculable and is sometimes transferred by contagion. The microbe is a special bacillus of elongated fusiform shape, which may be cultivated on bouillon and which is in most cases associated with a long spirillum. These two germs are found almost exclusively in the false membranes, despite the innumerable bacteria present in the mouth. There are two clinical forms of angina —diphtheroid and ulcero—membranous. The first begins with small white patches which enlarge and thicken on an inflamed base, on removal of the patch the base is found to be ulcerated. The submaxillary glands are usually enlarged and the onset is accompanied by slight fever. This form is caused by the pusiform bacillus alone or associated with strepto-or staphylococci. The second (ulcero-membranous) form is more common; here the fusiform bacillus and the spirillum are combined. It begins with febrile symptoms and reddened tonsils. The tonsil or perhaps the pharynx will exhibit a gray or yellow membrane situated on an ulcerated mucous membrane. This false membrane is soft and friable; after the fourth day the subjacent ulceration is deep and irregular. The breath is very fetid; deglutition painful; the tongue furred; the submaxillary glands enlarged. This angina subsides in eight to fifteen days as a rule, but may become chronic and persist for several months. Sometimes there is also coexisting stomatitis. The ulceration may extend to the palate, tongue or fauces. Scarlatiniform or polymorphous erythema, or purpura, may occur; as also albuminuria, myocarditis and endocarditis—these latter however, due to streptococcus complication. The diagnosis may be difficult in the diphtheroid form or in the first stage of the ulcero-membranous. In Vincent's angina the Löffler bacillus is absent. In anginas due to other microbes—strepto, staphylo, or pneumococci, coliv bacilli, leptothrix, idium, etc., the clinical characters of Vincent's angina do not appear and the specific germs of the latter are absent. Sometimes one finds fusiform bacilli in microscopic preparations of the polymicrobial anginas, but there is no multiplication of these. Their presence is explained by reason of the fusiform bacillus, like other pathogenic microbes being a normal inhabitant of the mouth of healthy subjects. This applies to diverse ulcerations of the mouth and pharynx which may sometimes show a few fusiform bacilli and at other times be invaded secondarily by spirilla. Secondary and tertiary syphilitic ulcerations may be infected secondarily. Vincent's angina is cured in a few days by the local application of tincture of iodine, which seems to diagnose it from syphilis. On the other hand, mercury and the iodides have no effect on this angina.

Hysterical sleep brought on by vaccination.—Camus reports the case of a young soldier, who immediately after vaccination fell to the floor. He was carried to a bed, and given the usual treatment for syncope, which was however ineffective. The appearance was that of a man asleep, the pulse and respirations being about normal. The eyes showed the presence of nystagmus and the pupils were dilated. His jaws were tightly clenched; the senses seemed abolished. Movements of the right leg were noticed at irregular intervals and lasted through the attack. Twenty-six hours afterward he awoke suddenly, having taken no nourishment during that time, and having had no stools nor passages of urine.

Psoriasis.—In this affection, which is persistent and difficult to treat, Dreuw (*Jour. A. M.*, June 10, '05) has used the following with great success: ℞ Acid salicylic ʒiiss; Chrysarobin et Ol rusci (birch tar) āā ℥v; Sapo virid et Vaselin, āā ℥viss. This combination of keratolytic, macerating and antipsoriatic substances is applied for from four to six days by the aid of a stiff brush to the affected area, followed (after it has dried somewhat) with a dusting with starch or zinc powder. This treatment, covering eight days, may be repeated several times, according to the severity of the disease, but generally the patches disappear soon after the first treatment. The ointment causes a marked scaling of the entire plague, and, after several days, the black crusts, which soon become loosely adherent, gradually loosen upon bathing and inunction with vaselin or zinc sulphur ointment. The application of Dreuw's ointment above given causes an intense feeling wherever psoriasis exists, and he considers it an indicator of areas of psoriasis. It also limits the chrysarobin irritation exclusively to the diseased area and causes no diffuse staining. This ointment must be well made, the solid constituents being well triturated. For prolonged use Dreuw has prepared a "mull," a plaster impregnated with this ointment, which is practically unirritating. We might here observe that in skin diseases the practioner will be likely to do much more harm than good if he is not sure of what the disease is he is treating. To this end a certain diagnosis must first be established; it being most essential to recognize and eliminate syphilis and eczema.

The diagnosis of prostatic cancer is made by Leguen (*Jour. de Med. et de Chir. Pratique,* Mch. 10, '05), who gives the points of difference from hypertrophy: the pain is more severe and constant, and there is less mechanical interference with urination than in hypertrophy. Hemorrhage occurs intermittently in all cases, but in very variable amounts. The pain is apt to radiate into the sciatic nerve, but is constant in the perineum. Interference with defecation is generally more marked than with urination. To the examining finer the wood-like hardness of the gland is pathognomonic. The tumor is very malignant and emaciation rapid. Operation is useless and inexpedient.

Amyl nitrate in inaccessible hemorrhages has been advocated by Hyde, particularly with regard to hemorrhages from the lung. The good results are evidently produced by the sudden lowering of the blood pressure, which moreover allows clotting to take place in the bleeding area. Francis Hare, of Brisbane, found accidentally in administering amyl nitrate by inhalation for angina pectoris, that menstruation was completely checked in the patient on several occasions. This experience attracted the notice of Colman (*Scot. Med. & Surg. Jour.,* May, '05), who administered the drug in this way to a patient suffering from severe menorrhagia; his results were most successful. The loss of blood was thus kept within normal limits after other methods had failed; and the patient's general condition was much improved. The lowered blood-pressure, either in ulcerated lung tissue or engorged endometrium, rises again after the administration of amyl nitrate, but gradually; and so the clots found are not displaced. The action of this drug seems to be a very close imitation of nature's method of checking a severe hemorrhage—syncope, clotting in the ruptured vessels, gradual rise of blood-pressure and return of consciousness, the rise of pressure being not rapid enough to expel the clots.

The Curability of Tabes is dwelt upon by Faure (*Brit. Med. Jour.,* June 10, '05), who strives to reconcile the divergent views of Babinski, Fournier and others. The variety in tabetics is such that they often cannot be compared and hence give different results with the same treatment; and analogous cases treated by different mercurial methods give also different results. The toleration of mercury varies with the patient's condition, earlier stages of the disease and younger patients supporting it best. Mercury gives different results according to dosage and method of administration. Inunction is uncertain; as are also injections of insoluble salts (which may lead to accidents). Soluble salts are best for injection, being more under control. Results vary from cure to aggravation of symptoms, according to the care exercised in treatment and as the case is more or less favorable. Mercurial treatment well carried out may arrest the disease or lessen its severity sufficiently for the patient to resume his vocation. But work should be reduced and the periods of treatment and repose should be annual and prolonged. Mercurial treatment badly carried out may aggravate the disease, or even cause new symptoms which persist afterwards. By careful adjustment of the dose to the patient's strength the maximum good effect may be obtained without fatigue or malaise. Some cases get worse under the most careful treatment; probably syphilis does not play an equal part in all cases. Certain lesions are cicatricial and are not affected by mercury; others in the inflammatory stage will react to the drug. Improvement under mercury does not usually prevent the persistence of certain signs, such as modified reflexes; nor further relapses under the influence of overwork, other infections, etc. Mercury is not the only treatment; the general hygiene is also important, and work should be restricted. Faure concludes that this drug does not cure all cases; under certain conditions, however, it gives favorable results. It is an error to give massive doses in all cases alike; and equally so to give none at all. All tabetics should receive it combined with rest, hydrotherapeutics and reeducation of the muscles. The course of the disease is not progressive in all cases. The classic type described by Duchenne is less common now than formerly, probably because of a more general adoption of mercurial treatment.

Left-sided gastric pain usually signifies an affection of the stomach itself, that on the right side is likely to occur reflexly from disease of other abdominal viscera. The only two exceptions to the former proposition—fat necrosis of the pancreas and splenic abscess—are so rare that they can be disregarded, declares Riedel (*Münch. Medicin. Wochenschr.,* Apr. 25, '05). An ulcer situated at the pylorus is much harder to diagnose than one in the body of the stomach, since the former gives rise to pain on the right side, which cannot be distinguished from that of cholecystitis. Ulcers of the antrum pylori give pain in the median line quite like the reflex abdominal pain of chronic appendicitis and that of a hernia of the liver alba. Tumefaction is very common with ulcers, since the musculoris and serosa will thicken and adhesions will readily form with the neighboring organs, especially the liver and the pancreas. A mass may thus be felt to the left of the median line, if the ulcer is situated in the middle portions of the stomach. There should be early diagnosis, since the end result will be an hour-glass stomach for which only an operation will avail. The history is characteristic; left-sided pain directly after eating, lasting several hours, several months later another attack, the stomach having been perfectly normal in the meantime. In six months or so the pain comes oftener and lasts perhaps half a day while the irritability of the organ increases. Finally, there is vomiting half an hour after each meal—this is purely reflex, since a stenosis has not been formed. The pain is now permanent and vomiting of daily occurrence; blood is, however, found in but half the cases. Operation is indicated if not in bed for several weeks with hot applications and fluid diet does not result in a cure.

Artificial feeding should be adopted when the mother cannot nurse; when the infant is unable to take the breast; when the mother's milk continues to disagree with the infant, or does not contain sufficient nourishment; when the milk supply remains insufficient; when the condition of the infant or the mother calls for weaning. (*Illinois State Board of Health Circular.*) When the milk is good in quality but insufficient, the mother should be "helped out," by giving the infant some artificial food in addition to the breast-milk. This should also be done at the beginning of weaning. Good artificial feeding is better than bad breast feeding; the former should always be begun when the mother has been found unable by several experiments to nurse. Breast feeding should always be given up when the mother is a consumptive, not only because of danger to the child, but also because the drain upon the mother herself hastens the progress and fatal termination of the disease; when the labor is followed by serious complication, such as severe hemorrhage, puerperal fever, blood poisoning or nephritis; when the mother is epileptic, or choreic or so intensely nervous as to require medical attention; when there is anemia or chronic disease in the mother; when the mother has again become pregnant. Extremely sensitive breasts are not a reason for discontinuing nursing, even though there may be intense pain during the act. Persistence for a few days usually overcomes this. Menstruation does not affect the milk as much as is usually believed. The nursing mother can become pregnant; a contrary opinion is erroneous. Some mothers foolishly nurse many months beyond the time of weaning (about twelve months after birth), believing that thus they cannot become pregnant. Such prolonged nursing is very harmful for the child, who is thus not properly nourished.

Chronic acetanilid poisoning is emphasized in two cases related by A. Stengel (*Jour. Am. Med. Ass'n.*, July 22, 1905), both of which are interesting from a diagnostic viewpoint. The first had been regarded as an obscure vascular disorder and even after the cause was suspected it offered some difficulties on account of the lack of morphological changes in the blood. Oddly enough, these patients denied the use of the drug; and this mental attitude, which Stengel has observed also in another case, is to be attributed, he believes, to a moral disturbance during the continuance of the habit. After their recovery the patients readily admitted the facts. The polycythemia in one of the cases was also of interest, perhaps the more so, as there was with it no splenic enlargement, which is common in chronic acetanilid poisoning. Sengel emphasizes the case with which neuralgic symptoms were controlled after the withdrawal of the acetanilid. He believes that the continued use of this drug, instead of controlling the neuralgic manifestations, acts as a depressant, and that they occur with even greater frequency than before taking the drug.

Pleurisy simulating appendicitis is the subject of editorial comment (*Am. Med.*, July 29, 1905). This confusion is apt to occur principally in children, who are subject to extremely sharp reactions. Pneumonia may also be mistaken for the abdominal affection. For example, a child will be taken with fever, vomiting and pain, localized in the right side of the abdomen, the disease being taken for appendicitis; but in a few days, one will detect localized dulness in the lung, with stethoscopic signs of demonstrating pneumonia. Pleurisy may be accompanied by abdominal symptoms, which give rise to the same error. The history of a child aged eight is cited (Comby), who presented a serofibrinous pleurisy during convalescence from scarlet fever. The pleural lesions were ushered in by a high fever, with a painful point in the abdomen; the pleurisy being on the left side and the abdominal point of tenderness likewise, caused some hesitation as to whether or not appendicitis was present. The abdominal symptoms were very marked, the abdomen being distended and painful; but the expression remained good. On the other hand, there was neither vomiting nor constipation. Auscultation revealed a pleuritic souffle in the lower part of the right lung, which showed that the pseudoappendicular phenomena could be accounted for by the process in the chest. Mistakes of this kind are more frequent than one might suppose. Garreau reports thirteen cases in which operation for appendicitis was done, when in reality, the cases were of pneumonia; the appendices here were normal. Certain pleurisies with a very marked reaction may give rise to a similar confusion. One should be very careful not to rely too much upon McBurney's point as a diagnostic indication, because a careful general examination will reveal the true nature of the affection. The lack of this precaution may expose one to serious mistakes and the performance of a useless and unjustifiable surgical operation.

Insect stings may occasion symptoms involving the respiratory, digestive, nervous and secretory systems; such symptoms being distinguished by the rapidity with which they develop and their intensity—oedema, eruptions, syncope, nausea, vomiting, diarrhoea and irregular pulse. (P. Fabre, *Bull. de l'Acad. de Medicine*, Paris, LXIX, No. 21.) The poison of the hymenoptera (bees, wasps and the like) is frequently more subtle and generally more rapid than that of snake or viper venom, which it resembles in many respects. Antivenim is generally not available, for the symptoms develop too rapidly. The most effective treatment is by aiding nature to eliminate the poison through the sweat urine, saliva and faeces, diffusible stimulants, diuretics, sialagogues and purgatives being indicated. The kidneys are here the chief emunctories to be considered. Locally lime water, salt or strong brine, is indicated, supplemented by a hot aromatic drink containing some diffusible stimulant such as ether or peppermint, to favor elimination. Vinegar water or ammonia usually neutralizes bee stings. The little blister formed by the clear venom deposited by the insect should be carefully removed without extracting the sting beforehand and without pressure (which would merely squeeze out more of the venom). Attempts to secure immunity by submitting to insect stings have been measurably successful in some instances.

A rising epidemic was recently reported in the rural press; one villager having been suffering with a rising on the finger so that a joint had to be amputated; and another having had trouble with a rising jaw.

MISCELLANY

Cancer, declares an exchange, has been ascertained to occur rarely very far south or far north.

In nitrous oxide administration, advises Gwathmey, either alone or as a preliminary to ether, the surgeons and nurses should consider the fact that hearing persists until surgical anesthesia is reached. All remarks should therefore be of a pleasant sort.

A singular gift to science was consummated by the delivery, according to the terms of his will, of the body of Mr. George M. Catt, for dissection, to the University and Bellevue Medical College. The deceased was the president of the Atlantic, Gulf and Pacific Company.

A 100-mile ride to patients was taken by Dr. Richards from his home, Thermopolis, to Kerwin, Wyoming, where several men were killed by an explosion in a gold mine. The mountainous distance was covered in eleven hours. Four relays were used, the ranchmen along the route supplying the horses.

20,000 birth certificates were issued to children in New York City by the Health Department before the recent school openings. The *Post* pertinently observed: "When there are so many other circumstances important to their education, could it not be taken for granted that these children had been born some time or other?"

An accumulation of blood under the fingernails can be evacuated, advises an exchange, without the painful means of cutting. Put a drop of liquor potassae over the site of the effusion, protecting the remainder of the finger from its effects by oiling. That part of the nail to which it is applied gradually softens and can be gently scraped away until a small opening is made and the blood allowed to escape.

Druggists are tired, it is declared in behalf of the American Druggists' Association, of vending postage stamps and of supplying directory information to the public; there is a tendency to omit these features in the future. The main grievance seems to be against women who buy a two-cent stamp with a five-dollar bill; and in addition consume the time of the clerks by requests for aid in looking up names in the directory.

The Electric Fan and Coryza have oftentimes stood in causative relation the one to the other. A Philadelphia physician explains the electric fan cold by the fact that the air thus stirred, is not fresh air unless the fan is backed up against a window. "When operating in an inside room or in similar places where it is most appreciated, the fan uses the same air over and over again, and this air gathers up and keeps in motion all the available dust."

Special Hospitals for transmissible diseases are advocated by Bergey (*Am. Med.,* August 5, 1905). If patients were allowed to see members of their families (under special precautions) the institutions would probably soon become popular. In France there are hospitals for contagious diseases in which the wards are divided from a visitors' corridor by means of glass plates. This suggestion is in line with that of a prophetic gentleman who believed that all diseases of an infectious nature will soon become the special province of government health departments, to which the care and treatment of such cases will be relegated.

Consumptive employees in the British post office are now pensioned in the earlier stage of the disease. Thus do they have a better chance of recovery and a source of infection is removed from the department. This humane policy shines out with special distinction when compared with that of our own Government at Washington, which dismisses its phthisical employees without pension. The work of the postman, so innocuous and so suitable for many cases of incipient phthisis, has cruelly been denied to such sufferers.

A new tax on immigrants, notes the *Jour. A. M. A.,* has been urged by the President upon Congress. A million immigrants have come into this country during the fiscal year ending in June; and it seems that agents of our Immigration Bureau in Europe have revealed objectionable methods by foreign governments to promote emigration of the criminal and unfit. A heavy proportion of the newcomers are not desirable, for political, economic and moral reasons. It will probably be recommended that the head tax on immigrants be raised to $25.

Vegetarianism is becoming very popular in English society circles, states an exchange, which cites a number of noble names in proof. (Not being up in these matters, we must refer the reader to the society journals for details.) Some are rigid vegetarians; others are slightly carnivorous, making a meal mostly of nuts and legumes. In "many great houses," too, fruit lunches are a customary feature. We note all this with a sigh, fearing the disintegration of the mighty British empire, which was built, we have been given to understand, upon juicy, rare, blood-grained roast beef.

The hashish habit seems prevalent in Egypt where the authorities are taking strenuous measures to suppress it. The customs' officials have made some very clever hauls—at Alexandria over one ton, which was valued at £2,500. The indulgence in hashish is forbidden both by the Mohammedan religion and by the law. To evade the authorities, this drug is now landed in Tripoli and conveyed thence into Egypt across country. The cultivation of hashish is one of the chief resources of the Peloponnesus; and the Greeks are the principal exporters. The alarming increase of insanity in Egypt has been attributed to hashish (from which term our word assassin is derived). Some of the poorest habitues will go for days without food in order to be able to buy sufficient to send them off to the "haven of delight" brought on by a smoke.

The feeding of New York City is the largest contract of its sort in the world. This city is in this respect a greater purchasing municipality than London, which exceeds it in population, because London, within its own limits, is a producer as well as a consumer. Moreover, the standard of living in Gotham, declares *The Sun,* demands the supplies of all sections of the country under conditions unknown in other lands. New York City received in 1904 500,000 crates of American grapes, 2,000,000 tubs of butter, 2,000,000 barrels of apples, 125,000 bales of hops, 180,000 sacks of peanuts, 1,800,000 boxes of oranges, 100,000 barrels of molasses, 175,000 boxes of cherries, 250,000 boxes of raisins, 100.000 crates of pineapples, 8,000 cases of honey, 1,200.000 cases of cheese, 3,500,000 cases of eggs, 700,000 boxes of lemons, 175,000 barrels of oatmeal, 400,000 barrels of onions, 400,000 crates of plums, 3,000,000 barrels of potatoes, 300,000 barrels of rice and 300,000 packages of breakfast food.

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Very truly, W. W. R., M.D.
39 Lainzer Strasse, Heitzing, Vienna, Austria.

P.S.—Please send me six large-sized packages, be express, to Vienna, Austria. We don't want to run out of it. W. W. R.

NOTE.—Dr. R. is a well-known physician and surgeon of Riverside, California.

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SELECTIONS

Dr. John Uri Lloyd has sent us a copy, for which our thanks are due, of his interesting little pamphlet on the "Pharmaceutical Still and its Development," which illustrates the scope of the literature in the Lloyd Library that is being so extensively utilized by authors and students.

The Physician's Visiting List for 1906 (Lindsay and Blakiston's), the fifty-fifth year of its successive, and successful, publication, will be ready for distribution on and after about November 15th. The advantage of ordering now is that your order will be placed on file, and filled immediately upon the publication of the book. The Physician's Visiting List is a book of original entry; a simple, plain statement of a year's work that may be kept with a minimum of labor. The New York Medical Record has stated that "for completeness, compactness, and simplicity of arrangement, it is excelled by none in the market." Each year the demand for it becomes greater. Address P. Blakiston's Son & Co., Philadelphia

Dr. Manfred Frankel, of Berlin, says at the last session of the Balneological Society in Berlin, Burwinkel maintained that arteriosclerosis is not a wasting disease, occurring as it does more especially in sedentaries, and not among the working classes. Its cause is to be found in the decreased rapidity of the blood current and the faulty composition of the blood. Prof. Winternitz of Venna called attention to the fact that all habits and factors have been blamed for the process, it being ignored that it differed in kind, occurs both in youth and in age, might be partial or general, do slight harm or endanger life. The chief field for antisclerosin is prophylaxis—its use at the very beginning of difficulties that point to arteriosclerosis. Fairly certain signs thereof are a peculiar indefinable feeling in the precardial region, slight dyspnoea, especially on walking, slight dizziness, temporal beating, frequent "going to sleep" of the extremities, tinnitus visual disturbances without lesion, and general gastric troubles. The age of the patient, the somewhat tense and hard pulse and the presence of symptoms of plethora, gout or rheumatism substantiate the diagnosis. It is in these cases that the phophylactic use of antisclerosin removes the subjective and objective manifestations. I have never seen undesirable effects from it. Two tablets three times daily is the average dose, continued until subjective difficulties vanish. Then I stop it for two or three weeks before resuming. The reappearance of symptoms indicates the need for immediate renewal of the medication.

Frederick Hadra, M.D,, of San Antonio, Tezas, in speaking of ethical proprietaries, says: "I should be very sorry, indeed, if the prejudices of any member of this society should so far overcome his better judgment as to banish all or most of these drugs from his practice without investigating their merits. So, if we desire a local antiphlogistic effect, and have to choose between the ancient, unsightly, unhygienic and troublesome flax-seed poultice and the newer proprietary article called Antiphlogistine, a physician must needs be prejudiced, indeed, who will prefer the former." . . . As regards the refilling by the druggists of prescriptions of proprietary remedies, he says: "If I am called to treat a sprain of the ankle, and find it necessary to order an antiphlogistic application, it would be just as easy for the patient to send to his druggist daily for more flax-seed meal or iodine, as it would be for him to order more cans of the more cleanly proprietary preparation, Antiphlogistine. A tonic or cough medicine, quinine mixture or capsule would share the same fate whether proprietary or extemporaneous. . . . "If the intelligent use of the drugs mentioned is not injurious per se, why should we protect the laity against their use any more than against the employment of any other drugs? Would the committee advocate the abondment of calomel, castor oil, mag. sulph., quinine, flaxseed meal, paregoric, laudanum or carbolic acid because the laity can also go to the drug store and purchase these just as they can Cascara preparations, Phenacetin, Listerine, Antiphlogistine, etc.!"

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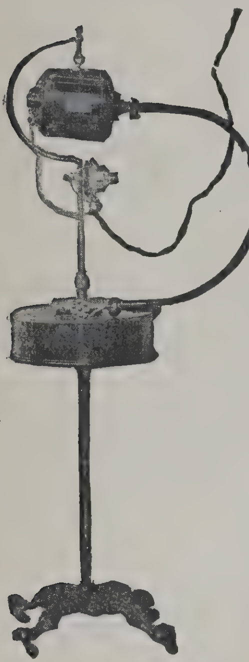

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SELECTIONS

When operating for empyema thoracis it is a good rule to aspirate again when the pleura is exposed and before it is incised. This may save some embarrassment.

The Palisade Mfg. Co., of Yonkers, N. Y., has recently issued a booklet, entitled "An Improved and Accurate Method of Staining Blood Films," which is now being mailed to physicians. This ethical and scientific brochure will be sent free to any reader of the Times upon request.

Parke, Davis & Co. have recently introduced a new liquid antiseptic of considerable power, called Cresylone. It contains 50 per cent. of Cresylic Acid and forms clear solutions with water in all proportions. A two per cent. solution of Cresylone is not only an excellent disinfectant for instruments and hands, but a valuable detergent and lubricant, too. It is said not to injure metallic or rubber instruments, though celluloid articles are apt to become friable under its action. In the treatment of wounds a one per cent. solution is usually employed, and a two per cent. solution may be used in profoundly septic cases when more vigorous measures are indicated. Cresylone completely arrests the development of pus organisms, and is, therefore, indicated in the various suppurations with which the general practitioner has to contend. In the treatment of otorrhea, irrigation with a ½ per cent solution is said to be of benefit. A solutions of the same strength is of value in the treatment of ozena. As it removes odor, it may prove of service in gangrene. In cancer of the cervix uteri the application of gauze saturated with a solution of Cresylone will remove the odor that accompanies this disease. For disinfecting sputa and stools, Cresylone commends itself in the sick-room, hospital ward, schools, prisons, etc.

Uric Acid Diathesis. Report of a Successful Case. Dr. Wm. H. Inghram, in the Canadian Journal of Medicine and Surgery, gives the history of a case which was successfully treated by the use of Buffalo Lithia Water. The patient some months previous to marriage suffered from indigestion and showed a tendency to melancholia. Cystitis developed a few months after birth of child, urination being accompanied by violent pains. Became very hysterical, the attacks becoming more and more frequent. Three years previously she was operated upon for gall stones, several small stones being removed. This was followed by some relief as to the violent character of the pain experienced, but the cystitis and mental nervous systems persisted. When patient came under treatment she was so hysterical and the melancholia so marked that her family feared insanity was imminent. The violent attacks of gall-stone colic were again a pronounced symptom and at times urination was so painful that catherization had to be resorted to for days at a time. A small stone passed was found to contain uric acid. Restricted diet, exercise and quantities of Buffalo Lithia Water was immediately ordered. It was, however, found that the diet could not be controlled to any appreciable extent. Being in her own home she had access to the table and pantry, and gratified to the fullest her almost voracious appetite; nor would she take more exercise than the average woman takes. Medicines seemed to have little effect, so he fell back upon the solvent and eliminant plan, insisting that she drink abundant quantities of this water. In a short time was noticed an abatement of all the distressing symptoms, which fact stimulated her ambition to drink more and more of this water. She gradually increased the amount to two quarts per day, and with this simple treatment improved gradually until at the end of about three weeks she was entirely free from cystitis, had no more attacks of gall-stone colic, the hysteria disappeared, and she is to-day as happy and cheerful as the average woman.

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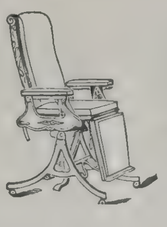

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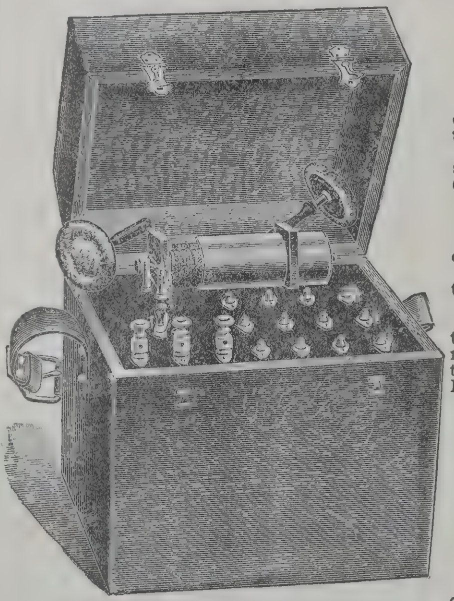

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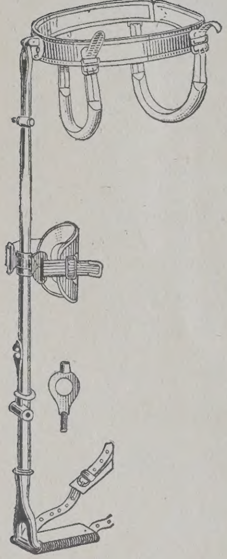

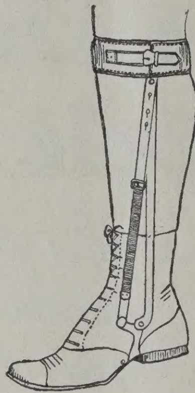

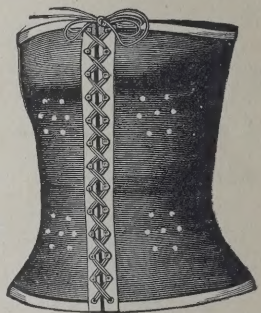

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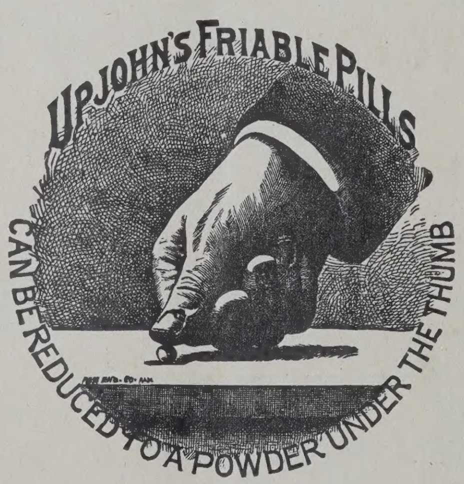
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